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OF

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FOR

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RELATING TO

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PREPAYMENTS for 1866.—It is the usual time to remi Subscribers that the prepayment for 1865 has expired and that th for 1866 has become due. The prepayment for the 'ENTOMOLOGIST has also expired, and the Twenty-three Numbers that have appeare are issued as a Volume, the price of which is Seven Shillings.

Mr. Stainton's 'Annual' was published on the 3rd of January, and is supplied from this Office as heretofore.

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EDWARD NEWMAN.

WITH the previous number (292) commenced a SECOND SERIES the 'ZOOLOGIST.' The continuous paging, which had reached 9818, is n discontinued: had it been otherwise we should have had five numerals to rep on every page, a matter of great inconvenience. The Second Series, of cour begins with p. 1. To avoid confusion, some changes have been made: t running heads hitherto indicating the subject, as "Birds," "Insects," &c., w be discontinued, and the general title, together with the date, will be substitut as follows, "THE ZOOLOGIST—JANUARY, 1866": thus each page will cer the date of its publication—a very important matter in questions of dispu priority. This distinction will at a glance show the reader which Series is consulting. The two Series are not of necessity connected, and new S scribers, of whom there will certainly be very many, need not be discour by the supposed necessity of procuring the back stock: Subscribers, how having imperfect series will have the opportunity of making them comp For all practical purposes the work recommences with No. 292, which gressive series of numbers will be continued as heretofore: the *number* o New Series will always be given in addition.

NOTICES OF NEW BOOKS.

'*Handbook of the Birds of Australia.*' By JOHN GOULD, F.R.S., &c. In Two Volumes. Royal 8vo. Published by the Author, at No. 26, Charlotte Street, Bloomsbury.

(Second and concluding notice.)

IN my first notice of this valuable work I took occasion to mention the great disadvantage under which both author and reviewer labour in a review of an incomplete work: in the present instance that disadvantage exists no longer, for Mr. Gould, with the most praiseworthy industry and promptitude, has completed a work which may henceforward rank as a most serviceable contribution to our knowledge of antipodean Zoology.

Of Mr. Gould's more expensive works it may truly be said that they are treasures only to be obtained by the affluent; into such hands as mine and those of thousands of naturalists who, like myself, are thirsting for information, they can never fall; and thus, while they adorn the rich man's table, and are duly admired, they do not impart that instruction to the masses which ought to result from Mr. Gould's never-ending labours. This 'Handbook of the Birds of Australia,' now complete in two volumes, supplies this desideratum as far as Australia itself is concerned, and is by far the most exhaustive account of the *known* Avifauna of any country that has yet issued from the press. The qualification "known" is advisedly introduced, because our knowledge of the interior is still most imperfect, and there is yet unexplored territory in which even the largest Struthionidæ may rove undetected and undreamed of by civilized man. And if Struthionidæ, how much more the various passerine families, of which our entire knowledge is restricted to the observations of some dozen travellers who have now and then touched the shores of this sea-girt continent.

Dr. Jerdon, as I have already shown, has ably performed this task for a large portion of continental India, leaving, however, his great work somewhat incomplete, by restricting his labour to rather capricious geographical limits; and the Avifauna of North America has found most able exponents in the illustrious Wilson, in Nuttall, Audubon and Baird; still, however, allowing abundant room for such a handbook as Mr. Gould's.

BRITISH MUSEUM

Nothing can be more gratifying to the working ornithologist than to have those various portions of the earth's surface thus physically surveyed, and how delightful will it prove in the hereafter, when Nestor, Dromaius, Apteryx and other genera have followed in the track of Æpyornis, Palapteryx, Dinornis and Didus, as they assuredly will follow, to have their portraits and their characters faithfully preserved in a manner as defiant of time as the pyramids of Egypt themselves.

In my former notice I confined my extracts to the general observations in Mr. Gould's Introduction, but now it seems desirable to enter more fully into detail, and to select certain species with a view to exhibit clearly the comprehensive plan on which Mr. Gould has conducted and completed his investigations: the examples I select are the wattled Talegallus, the ocellated Leipoa, and the Australian Megapodius, and although there is no great novelty in the details of economy now reprinted, I think it is the first instance in which they have been brought together side by side, so that the differences may be readily noticed and contrasted.

Wattled Talegallus (Talegallus Lathami).—"It has often been asserted that Australia abounds in anomalies, and in no instance is the truth of this assertion more fully exemplified than in the history of this very singular bird, respecting the situation of which in the natural system much diversity of opinion, as above noticed, has hitherto prevailed. It was consequently one of the birds which demanded my utmost attention during my visit to Australia; and, immediately upon its remarkable habits becoming known to me, I published an account of them in the first volume of the 'Tasmanian Journal' for 1840. The remarks therein contained, and which are recapitulated below, comprise all that is known respecting them, nothing of importance having since been discovered.

"The most remarkable circumstance connected with the economy of this species is the fact of its eggs not being incubated in the manner of birds. At the commencement of the spring the wattled Talegallus scratches together an immense heap of decaying vegetable matter as a depository for the eggs, and trusts to the heat engendered by the process of fermentation for the development of the young. The heap employed for this purpose is collected by the birds during several weeks previous to the period of laying; it varies in size from two to many cart-loads, and in most instances is of a pyramidal form. The construction of the mound is either the work of one pair of birds, or, as some suppose, the united labours of several; the same site appears to be resorted to for several years in succession, the birds adding a fresh supply of materials each succeeding season.

"The materials composing these mounds are accumulated by the bird grasping a quantity in its foot and throwing it backwards to one common centre, the surface of the ground for a considerable distance being so completely scratched over that scarcely a leaf or a blade of grass is left. The mound being completed, and time allowed for a sufficient heat to be engendered, the eggs are deposited in a circle at the distance of nine or twelve inches from each other, and buried more than an arm's depth, with the large end upwards; they are covered up as they are laid, and allowed to remain until hatched. I have been credibly informed, both by natives and settlers living near their haunts, that it is not an unusual event to obtain half a bushel of eggs at one time from a single mound; and I have myself seen a native woman bring to the encampment in her net half as many as the spoils of a foraging excursion to the neighbouring scrub. Some of the natives state that the females are constantly in the neighbourhood of the mound about the time the young are likely to be hatched, and frequently uncover and cover them up again, apparently for the purpose of assisting those that may have appeared; while others have informed me that the eggs are merely deposited, and the young allowed to force their way unassisted. One point has been clearly ascertained, namely, that the young from the hour they are hatched are clothed with feathers, and have their wings sufficiently developed to enable them to fly on to the branches of trees, should they need to do so to escape from danger; they are equally nimble on their legs; in fact, as a moth emerges from a chrysalis, dries its wings and flies away, so the youthful Talegallus, when it leaves the egg, is sufficiently perfect to be able to act independently and procure its own food. This we know from personal observation of the bird in a state of captivity; several old birds having constructed mounds, in which their eggs have been deposited and their young developed, in the Gardens of the Zoological Society in the Regent's Park. I shall always look back with pleasure to the fact of my being the first to make known these singular habits. Although, unfortunately, I was almost too late for the breeding-season, I nevertheless saw several of these hatching mounds, both in the interior of New South Wales and at Illawarra: in every instance they were placed in the most retired and shady glens, and on the slope of a hill, the part above the mound being scratched clean, while all below remained untouched, as if the birds had found it more easy to convey the materials down than to throw them up. The eggs are perfectly white, of a long oval form, three inches and three quarters long by two inches and a half in diameter. When disturbed, the wattled Talegallus readily eludes pursuit by the facility with which it runs through the tangled brush. If hard pressed, or when rushed upon by its great enemy, the native dog, it springs upon the lowermost bough of some neighbouring tree, and by a succession of leaps from branch to branch ascends to the top, and either perches there or flies off to another part of the brush. It is also in the habit of resorting to the branches of trees as a shelter from the mid-day sun—a peculiarity that greatly tends to their destruction; for, like the ruffed grouse of America, when assembled in small companies, they will allow a succession of shots to be fired until they are all brought down. Unless some measures be adopted for their preservation, this circumstance must lead to an early extinction of this singular species—an event much to be regretted, since, independently of its being an interesting object for the aviary, it is an excellent bird for the table.

"While stalking about the woods, the Talegallus frequently utters a rather loud clucking noise; but whether this sound is uttered by the female only I could not ascertain; still I think such is the case, and that the spiteful male, who appears to delight in expanding his richly-coloured fleshy wattles and unmercifully thrashing his help-mate, is generally mute.

"In various parts of the brush I observed depressions in the earth, which the natives informed me were made by the birds in dusting themselves."—Vol. ii. p. 151.

Equally interesting and not very dissimilar is the economy of Leipoa ocellata; I prefer calling it by the technical name, feeling a very great repugnance to the greco-latin English names which authors are now pleased to confer on exotic species. The fashion was invented by the French: would it were confined to that busy nation.

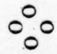
Ocellated Leipoa (Leipoa ocellata).—"This morning I had the good fortune to penetrate into the dense thicket I had been so long anxious to visit, in search of the Leipoa's eggs, and had not proceeded far before the native who was with me told me to keep a good look-out, as we were among the *Ngou-oo's* hillocks; and in half an hour after we found one, around which the brush was so thick that we were almost running over it before seeing it. So anxious was I to see the hidden treasures within, that in my haste I threw aside the black fellow and began scraping off the upper part of the mound; this did not at all please him, and he became very indignant, at the same time making me understand that as I had never seen this nest before I had better trust to him to get out the eggs, or I should, in my haste and impatience, certainly break them. I therefore let him have his own way, and he began scraping off the earth very carefully from the centre, throwing it over the side, so that the mound very soon presented the appearance of a huge basin; about two feet in depth of earth was in this way thrown off, when the large ends of two eggs met my anxious gaze; both these eggs were resting on their smaller apex, and the earth round them had to be very carefully removed to avoid breaking the shell, which is extremely fragile when first exposed to the atmosphere. About a hundred yards from this first mound we came upon a second, rather larger, of the same external form and appearance; it contained three eggs. Although we saw seven or eight more mounds, only these two contained eggs: we were too early; a week later, and we should doubtless have found many more. To give you an idea of the place these birds choose for their remarkable mode of rearing their young, I will describe it as nearly as I can:—The Wonga Hills are about thirteen hundred feet above the level of the sea, in a north-north-east direction from Drummond's House in the Toodyay: their sides are thickly clothed with a dense forest of Eucalypti, and at their base is a thicket, extending for several miles, of upright-growing and thick bushy plants, so high in most parts that we could not see over their tops, and so dense that, if we separated only for a few yards, we were obliged to cooey, to prevent our straying from each other; this thicket is again shadowed by a very curious species of dwarf Eucalyptus bearing yellow blossoms, and growing from fifteen to thirty feet in height, known to the natives as the spear-wood, and of which they make their spears, digging-sticks, dowaks, &c.; the whole formation is a fine reddish ironstone-gravel, and this the Leipoa scratches up from several yards around, and thus forms its mound, to be afterwards converted into a hot-bed for the reproduction of its offspring. The interior of the mound is composed of the finer particles of the gravel, mixed with vegetable matter, the fermentation of which produces a warmth sufficient for the purpose of hatching. Mr. Drummond, who had been for years accustomed to hot-beds in England, gave it as his opinion that the heat around the eggs was about 89°. In both the nests with eggs the white ant was very numerous, making its little covered galleries of earth around and attached to the shell, thus showing a beautiful provision of Nature in preparing the necessary tender food for the young bird on its emergence: one of the eggs I have preserved shows the white ants' tracks most beautifully: the largest mound I saw, and which appeared as if in a state of preparation for eggs, measured forty-five feet in circumference, and if rounded in proportion on the top, would have been full five feet in height. I remarked in all the mounds not ready for the reception of eggs, the inside or vegetable portion was always wet and cold, and I imagine, from the state of others, that the bird turns out the whole of the materials to dry before depositing its eggs and covering them up with the soil; in both cases where I found eggs the upper part of the mound was perfectly and smoothly rounded over, so that any one passing it without knowing the singular habit of the bird might very readily suppose it to be an ant-hill: mounds in this state always contain eggs within, while those without eggs are not only *not* rounded over, but have the centres so scooped out that they form a hollow. The eggs are deposited in a very different manner from those of the Megapodius; instead of each being placed in a separate excavation in different parts of the mound, they are laid directly in the centre, all at the same depth, separated only by about three inches of earth, and so placed as to form a circle. I regret we were so early; had we been a week later the probability is I should have found the circle of eggs complete. Is it not singular that all the eggs were equally fresh, as if their development was arrested until the full number was deposited, so that the young might all appear about the same time? No one, considering the immense size of the egg, can for a moment suppose the bird capable of laying more than one without at least the intermission of a day, and perhaps even more.

"Like those of the Megapodius, they are covered with an epidermis-like coating, and are certainly as large, being three inches and three-quarters in length by two and a half in breadth; they vary in colour from a very light brown to a light salmon. During the whole day we did not succeed in obtaining sight of the bird, although we saw numerous tracks of its feet and many places where it had been scratching; we also saw its tracks on the sand when crossing the dried beds of the swamps, at least two miles from the breeding-thicket, which proves that the bird, in procuring its food, does not confine itself to the brushes around its nest, but merely resorts to them for the purpose of incubating. The native informed us that the only chance of procuring the bird was by stationing ourselves in sight of the mound, at a little distance, and remaining quiet and immovable till it made its appearance at sun-down; this I attempted, and, with the native, encamped within about twenty yards of the mound about an hour before sun-set, taking the precaution to conceal ourselves well with bushes from the quick eye of the bird, but leaving just a sufficient opening to get a fair sight with my gun; in a half-sitting, half-crouching position, I thus remained in breathless anxiety for the approach of the bird I had so long wished to see, not daring to move a muscle for fear of moving a branch or making a noise by crushing a dead leaf, till I was so cramped I could scarcely bear the pain in my limbs; the bird did not, however, make its appearance, and the native, with the fear of wading through the thicket in darkness (for there was no moon), became so impatient that he started up and began to talk so loud, and make so much noise, that I was compelled to give up all hopes of seeing the bird that night; however, just as we were passing the mound, we started the bird from the opposite side, but, from the denseness of the thicket and the darkness closing around us, I had no chance of getting a shot at it. Mr. Roe, the Surveyor-General, who examined several mounds during his expedition to the interior in the year 1836, found the eggs nearly ready to hatch in the month of November, and invariably seven or eight in number; while another authority has informed me of an instance of fourteen being taken from one mound."—Vol. ii. p. 155.

I will here insert an extract from a letter addressed to Mr. Gould on the subject of the same bird.

"The mounds they construct are from twelve to thirteen yards in circumference at the base, and from two to three feet in height; the general form being that of a dome. The sand and grass are sometimes scraped up for a distance of from fifteen to sixteen feet from its outer edge.

"The mound appears to be constructed as follows:—A nearly circular hole, of about eighteen inches in diameter, is scratched in the ground to the depth of seven or eight inches, and filled with dead leaves, dead grass and similar materials; and a large mass of the same substances is placed all round it upon the ground. Over this first layer a large mound of sand, mixed with dried grass, &c., is thrown, and finally the whole assumes the form of a dome, as I have before stated.

"When an egg is to be deposited, the top is laid open and a hole scraped in its centre to within two or three inches of the bottom of the layer of dead leaves. The egg is placed in the sand just at the edge of the hole, in a vertical position, with the smaller end downwards. The sand is then thrown in again, and the mound left in its original form. The egg which has been thus deposited is therefore completely surrounded and enveloped in soft sand, having from four to six inches of sand between the lower end of the egg and the layer of dead leaves. When a second egg is laid it is deposited in precisely the same plane as the first, but at the opposite side of the hole before alluded to. When a third egg is laid it is placed in the same plane as the others, but, as it were, at the third corner of the square. When the fourth egg is laid it is still placed in the same plane, but in the fourth corner of the square, or rather of the lozenge, the figure being of this form—  ; the next four eggs in succession are placed in the interstices, but always in the same plane, so that at last there is a circle of eight eggs all standing upright in the sand, with several inches of sand intervening between each. The male bird assists the female in opening and covering up the mound; and, provided the birds are not themselves disturbed, the female continues to lay in the same mound, even after it has been several times robbed. The natives say that the females lay an egg every day.

"Eight is the greatest number I have heard of from good authority as having been found in one nest; but I opened a mound which had been previously robbed of several eggs, and found that two had been laid opposite to each other in the same plane, in the usual manner; and a third deposited in a plane parallel to that in which the other two were placed, but 4½ inches below them. The circumstance led me to imagine it was possible that there might be sometimes successive circles of eggs in different planes.

* * * * * *

"One of the mounds of these birds which had been robbed of its eggs on the 11th of November, some of which were quite fresh, had two fresh eggs laid in it on the 27th of the same month, and the birds were seen at the nest on the morning of the 28th, apparently for the purpose of laying, when the male bird was shot.

"Sometimes several of these mounds are constructed close to one another. I found two within 200 or 300 yards; and have seen five within the distances of four or five miles. They were built in precisely the same situations that I have seen them in other parts of the continent, that is, in a sandy scrubby country, the site of the mound being in some little open glade, in the very thickest part of the scrub.

"The eggs are of a light pink, the colour being brightest and most uniform when freshly laid. As the time of hatching approaches they become discoloured, and marked in places with dark spots.

"The greatest length of these eggs is about	$3\frac{6}{10}$	inches.
,, breadth ,,	$2\frac{2}{10}$	,,
Circumference in direction of length	10	,,
,, ,, breadth	$7\frac{2}{10}$	,,

"The temperature of the nests I have examined has always been warm; not so much so, however, as I should have thought necessary for the purpose of hatching eggs.

"There are two great peculiarities about these eggs; the first is, that both ends are of nearly the same size, which form is peculiarly adapted to the position in which they are always placed; the egg being compressed in every part as nearly as possible towards the axis, in which the centre of gravity lies, there is the least possible tendency to its equilibrium being destroyed when it is placed in a vertical position. A second peculiarity is the extreme thinness of the shell, and its consequent fragility. This is so great that unless the egg is handled with the greatest care it is sure to be broken; and every effort which has been made to hatch these eggs under domestic fowls has failed, the egg having in every instance been broken by the bird under which it was placed.

"The native name for the bird on the Murray River is *Marrak-ko* or *Marra-ko;* in Western Australia the name of the bird is *Ngow-o* or *Ngow.* The name in Western Australia is given from the tuft on its head, *Ngoweer* meaning a tuft of feathers.

"I have found this bird in different parts of that portion of Australia included between the 26th and 36th parallels of south latitude, and 113th and 141st parallels of east longitude, and I think that there is every probability that it inhabits a much wider range. It is found in all the scrubby districts of South Australia.

"The farthest point north at which I have seen the breeding-places of this bird is Gantheaume Bay. The natives of King George's Sound say the bird exists in that neighbourhood. I have never fallen in with its nests but in one description of country, *viz.* where the soil was dry and sandy, and so thickly wooded with a species of dwarf Leptospermum that if you stray from the native paths it is almost impossible to force your way through.

"There is only one male and one female to each mound: they repair an old mound, and do not build a new one; both assist in scratching the sand to the nest. The female commences laying about the beginning of September, or when the spear-grass begins to shoot. Both sexes approach the nest together when the female is about to lay, and they take an equal share in the labour of covering and uncovering the mound. After every sunrise the female lays an egg, and lays altogether from eight to ten. If the natives rob the mound, the female will lay again in the same nest, but she will only lay the full number of eggs twice in one summer. From the commencement of building until the last eggs are hatched four moons elapse (this would give a very long period of time before the eggs were hatched). The young one scratches its way out alone; the mother does not assist it. They usually come out one at a time; occasionally a pair appear together. The mother, who is feeding in the scrub in the vicinity, hears its call and runs to it. She then takes care of the young one as a European hen does of its chick. When the young are all hatched, the mother is accompanied by eight or ten young ones, who remain with her until they are more than half-grown. The male bird does not accompany them. The two sexes have different calls; that of the female is constantly uttered while she walks about in the scrub with her young ones.

"The natives frequently find the eggs and nests, but they seldom see the old birds, which are very timid and quick-sighted. They run very fast, like the emu, roost on trees, and live for a long time without water, but drink when it rains. The natives state that the Entozoa which I found in the bird mentioned above were unusual, and that it must have been in ill health.

"It is a remarkably stout, compact bird, and appears when alive to have as large a body as the female turkey, but it is shorter on the legs."

To this Mr. Gould adds—

"Besides the above valuable notes by Gilbert and Sir George Grey, Mr. Richard Schomburgk has kindly lent me a copy of the 'Leopoldina,' Haft iii., October, 1862, containing a communication from him respecting this bird, which in the main agrees with the above statements, but he has been led to believe that an interval of three or four days elapses between the laying of the eggs by one female; he also particularly remarks upon the base of the mound being sunk in the ground to the depth of twenty or twenty-four inches, and the cavity filled with leaves of the Eucalypti, on the top of and surrounding which the mound of sand and mixed herbage is raised. Mr. Schomburgk also states that an egg he took home and placed under a domestic hen was hatched the next day, and the young bird appeared covered with feathers and capable of at once obtaining its own food."—Vol. ii. pp. 160—166.

I cannot assume that the economy of these remarkable birds will prove novel to all my readers, but I am quite sure they will be read with interest even by those who were previously acquainted with the facts detailed; and extraordinary as the account of Talegallus and Leipoa may be considered, that of Megapodius Tumulus will assuredly be read with still greater interest: it is extracted from Mr. Gilbert's notes. The incredulity of the settlers, who could not assign any other origin to these tumuli than that they were burial-places of the natives, and the knowledge possessed by the natives that they were the handiwork of birds, are facts which give the narrative additional interest. How frequently do we draw our conclusions from very insufficient premises, and construct hypotheses that will harmonize with our own preconceived idea! There is a dawn of intelligence exhibited by the natives in their positive assertion that these tumuli were the work of birds that is also worthy of notice; not that I would argue from this the capacity for farther education, for I believe the "thus far and no farther," although its application by man is futile, nevertheless exists in nature, and I never expect to see the boundary line passed over, yet every step which man or animals can achieve must be a matter of interest, and, however low our estimate of an Australian's intelligence, let us at least give him credit for all that he possesses; and these volumes of Mr. Gould's tend greatly to exhibit the native mind in its true colours. But I must devote so much space to the Megapode itself that I will not trouble the reader with my own reflections.

Australian Megapode (Megapodius Tumulus).—"The following account of its habits is taken from Gilbert's notes, and novel and extraordinary as those of Talegallus and Leipoa may have been considered, this will be read with even greater interest:—

"'On my arrival at Port Essington my attention was attracted to numerous mounds of earth, which were pointed out to me by some of the residents as the tumuli of the aborigines; on the other hand, I was assured by the natives that they were formed by the Megapode for the purpose of incubating its eggs: their statement appeared so extraordinary, and so much at variance with the general habits of birds, that no one in the settlement believed them or took sufficient interest in the matter to examine the mounds, and thus to verify or refute their accounts; another circumstance which induced a doubt of their veracity was the great size of the eggs brought in by the natives as those of this bird. Aware that the eggs of Leipoa were hatched in a similar manner, my attention was immediately arrested by these accounts, and I at once determined to ascertain all I possibly could respecting so singular a feature in the bird's economy; and, having procured the assistance of a very intelligent native, who undertook to guide me to the different places resorted to by the bird, I proceeded on the 16th of November to Knocker's Bay, a part of Port Essington Harbour comparatively but little known, and where I had been informed a number of these birds were always to be seen. I landed beside a thicket, and had not proceeded far from the shore ere I came to a mound of sand and shells, with a slight mixture of black soil, the base resting on a sandy beach, only a few feet above high-water mark; it was enveloped in the large yellow-blossomed Hibiscus, was of a conical form, twenty feet in circumference at the base and about five feet in height. On pointing it out to the native and asking him what it was, he replied, 'Oooregoorga Rambal,' Megapode's house or nest. I then scrambled up the sides of it, and to my extreme delight found a young bird in a hole about two feet deep; it was lying on a few dry withered leaves, and appeared to be only a few days old. So far I was satisfied that these mounds had some connexion with the bird's mode of incubation; but I was still sceptical as to the probability of these young birds ascending from so great a depth as the natives represented; and my suspicions were confirmed by my being unable to induce the native, in this instance, to search for the eggs, his excuse being that "he knew it would be useless, as he saw no traces of the old birds having recently been there." I took the utmost care of the young bird, intending to rear it, if possible; I therefore obtained a moderately sized box, and placed in it a large portion of sand. As it fed rather freely on bruised Indian corn, I was in full hopes of succeeding; but it proved of so wild and intractable a disposition that it would not reconcile itself to such close confinement, and effected its escape on the third day. During the period it remained in captivity it was incessantly occupied in scratching up the sand into heaps; and the rapidity with which it threw the sand from one end of the box to the other was quite surprising for so young and small a bird, its size not being larger than that of a small quail. At night it was so restless that I was constantly kept awake by the noise it made in its endeavours to escape. In scratching up the sand it only used one foot, and having grasped a handful, as it were, the sand was thrown behind it, with but little apparent exertion, and without shifting its standing position on the other leg; this habit seemed to be the result of an innate restless disposition and a desire to use its powerful feet, and to have but little connexion with its feeding; for although Indian corn was mixed with the sand, I never detected the bird in picking any of it up while thus employed.

"'I continued to receive the eggs without having an opportunity of seeing them taken from the mound until the 6th of February, when, on again visiting Knocker's Bay, I had the gratification of seeing two taken from a depth of six feet in one of the largest mounds I had then seen. In this instance the holes ran down in an oblique direction from the centre towards the outer slope of the hillock, so that, although the eggs were six feet deep from the summit, they were only two or three feet from the side. The birds are said to lay but a single egg in each hole, and after the egg is deposited the earth is immediately thrown down lightly until the hole is filled up; the upper part of the mound is then smoothed and rounded over. It is easily known when a Megapode has been recently excavating, from the distinct impressions of its feet on the top and sides of the mound, and the earth being so lightly thrown over, that with a slender stick the direction of the hole is readily detected, the ease or difficulty of thrusting the stick down indicating the length of time that may have elapsed since the bird's operations. Thus far it is easy enough; but to reach the eggs requires no little exertion and perseverance. The natives dig them up with their hands alone, and only make sufficient room to admit their bodies and to throw out the earth between their legs; by grubbing with their fingers alone they are enabled to follow the direction of the hole with greater certainty, which will sometimes, at a depth of several feet, turn off abruptly at right angles, its direct course being obstructed by a clump of wood or some other impediment. Their patience is, however, often put to severe trials. In the present instance, the native dug down six times in succession to a depth of at least six or seven feet without finding an egg, and at the last attempt came up in such a state of exhaustion that he refused to try again; but my interest was now too much excited to relinquish the opportunity of verifying the native's statements, and by the offer of an additional reward I induced him to make another effort: this seventh trial proved successful, and my gratification was complete, when the native with equal pride and satisfaction held up an egg, and after two or three more attempts produced a second, thus proving how cautious Europeans should be of disregarding the narratives of these poor children of nature, because they happen to sound extraordinary or different from anything with which they were previously acquainted. I revisited Knocker's Bay on the 10th of February, and having with some difficulty penetrated into a dense thicket of cane-like creeping plants, I suddenly found myself beside a mound of gigantic proportions. It was fifteen feet in height and sixty in circumference at the base, the upper part being about a third less, and was entirely composed of the richest description of light vegetable mould; on the top were very recent marks of the bird's feet. The native and myself immediately set to work, and, after an hour's extreme labour, rendered the more fatiguing from the excessive heat, and the tormenting myriads of mosquitoes and sand-flies, I succeeded in obtaining an egg from a depth of about five feet; it was in a perpendicular position, with the earth surrounding and very lightly touching it on all sides, and without any other material to impart warmth, which, in fact, did not appear necessary, the mound being quite warm to the hands. The holes in this mound commenced at the outer edge of the summit, and ran down obliquely towards the centre; their direction, therefore, is not uniform. Like the majority of the mounds I have seen, this was so enveloped in thickly foliaged trees as to preclude the possibility of the sun's rays reaching any part of it. The mounds differ very much in their composition, form and situation; most of those that are placed near the water's edge were formed of sand and shells, without a vestige of any other material, but in some of them I met with a portion of soil and decaying wood: when constructed of this loose material, they are very irregular in outline, and often resemble a bank thrown up by a constant heavy surf. One remarkable specimen of this description, situated on the southern side of Knocker's Bay, has the appearance of a bank, from twenty-five to thirty feet in length, with an average height of five feet; another even more singular is situated at the head of the harbour, and is composed entirely of pebbly iron-stone, resembling a confused heap of sifted gravel; into this I dug to the depth of two or three feet, without finding any change of character; it may have been conical originally, but is now without any regularity, and is very extensive, covering a space of at least a hundred and fifty feet in circumference.

These remarkable specimens would, however, seem to be exceptions, as by far the greater number are entirely formed of light black vegetable soil, are of a conical form, and are situated in the densest thickets. Occasionally the mounds are met with in barren, rocky and sandy situations, where not a particle of soil similar to that of which they are composed occurs for miles round: how the soil is produced in such situations appears unaccountable; it has been said that the parent birds bring it from a great distance; but as we have seen that they readily adapt themselves to the difference of situation this is scarcely probable: I conceive that they collect the dead leaves and other vegetable matter that may be at hand, and which, decomposing, forms this particular description of soil. The mounds are doubtless the work of many years, and of many birds in succession: some of them are evidently very ancient, trees being often seen growing from their sides; in one instance I found a tree growing from the middle of a mound which was a foot in diameter. I endeavoured to glean from the natives how the young effect their escape; but on this point they do not agree, some asserting that they find their way unaided; others, on the contrary, affirmed that the old birds, knowing when the young are ready to emerge from their confinement, scratch down and release them. The natives say that only a single pair of birds are ever found at one mound at a time, and such, judging from my own observation, I believe to be the case; they also affirm that the eggs are deposited at night, at intervals of several days, and this I also believe to be correct, as four eggs taken on the same day, and from the same mound, contained young in different stages of development; and the fact that they are always placed perpendicularly is established by the concurring testimony of all the different tribes of natives I have questioned on the subject.

"'The Megapode is almost exclusively confined to the dense thickets immediately adjacent to the sea-beach; it appears never to go far inland, except along the banks of creeks. It is always met with in pairs or quite solitary, and feeds on the ground, its food consisting of roots, which its powerful claws enable it to scratch up with the utmost facility, and also of seeds, berries and insects, particularly the larger species of Coleoptera. It is at all times a very difficult bird to procure; for although the rustling noise produced by its stiff pinions when flying may be frequently heard, the bird itself is seldom to be seen. Its flight is heavy and unsustained in the extreme; when first disturbed it invariably flies to a tree, and on alighting stretches out its head and neck in a straight line with its body, remaining in this position as stationary and motionless as the branch upon which it is perched; if, however, it becomes fairly alarmed, it takes a horizontal but laborious flight for about a hundred yards, with its legs hanging down as if broken. I did not myself detect any note or cry; but, from the native's description and imitation of it, it much resembles the clucking of the domestic fowl, ending with a scream like that of the peacock.

"'I observed that the birds continued to lay from the latter part of August to March, when I left that part of the country; and, according to the testimony of the natives, there is only an interval of about four or five months, the dryest and hottest part of the year, between their seasons of incubation. The composition of the mound appears to influence the colouring of a thin epidermis with which the eggs are covered, and which readily chips off, showing the true shell to be white; those deposited in the black soil are always of a dark reddish brown, while those from the sandy hillocks near the beach are of a dirty yellowish white; they differ a good deal in size, but in form they all assimilate, both ends being equal; they are three inches and five lines long by two inches and three lines broad.'

"The following interesting account of the breeding-places of this remarkable bird has been transmitted to me by Mr. John Macgillivray as the result of his observations on Nogo or Megapodius Island in Endeavour Straits. It will be seen that its range is more extensive than I had assigned to it:—'The most southern locality known to me for this singular bird is Haggerston Island (in lat. 12° 3′ South), where I observed several of its mounds of very large size, but did not see any of the birds. During the survey of Endeavour Straits in H.M.S. 'Bramble,' I was more fortunate, having succeeded in procuring both male and female on the island marked 'Nogo' upon the chart, where I resided for several days for that sole purpose. On this small island, not more than half a mile in length, rising at one extremity into a low rounded hill densely covered with jungle (or what in New South Wales would be called 'brush'), three mounds, one of them apparently deserted before completion, were found. The two others were examined by Mr. Jukes and myself. The most recent, judging from the smoothness of its sides and the want of vegetable matter, was situated upon the crest of the hill, and measured 8 feet in height (or 13½ from the base of the slope to the summit) and 77 feet in circumference. In this mound, after several hours' hard digging into a well-packed mass of earth, stones, decaying branches and leaves and other vegetable matter, and the living roots of trees, we found numerous fragments of eggs, besides one broken egg containing a dead and putrid chick, and another whole one which proved to be addled. All were imbedded at a depth of *six feet* from the nearest part of the surface, at which place the heat produced by the fermentation of the mass was considerable.

"'The egg, 3¼ by 2⅛ inches, was dirty brown, covered with a kind of epidermis, which easily chipped of, exposing a pure white surface beneath. Another mound, situated at the foot of the hill close to the beach, measured no less than 150 feet in circumference; and to form this immense accumulation of materials the ground in the vicinity had been scraped quite bare by the birds, and numerous shallow excavations pointed out whence the materials had been derived. Its form was an irregular oval, the flattened summit not being central as in the first instance, but situated near the larger end, which was elevated 14 feet from the ground, the slope measuring, in various directions, 18, 21½ and 24 feet. At Port Lihou, in a small bay a few miles to the westward, at Cape York and at Port Essington, I found other mounds, which were comparatively low, and appeared to have been dug into by the natives. The great size the tumuli (which are probably the work of several generations) have attained on Haggerston and Nogo Islands arises doubtless from those places being seldom visited by the aborigines. I found several eggs of large size in the ovarium of a female shot in August, while the condition of the oviduct showed that an egg had very recently passed; hence it is probable that, in spite of their great comparative size, one bird lays several; but whether each mound is resorted to by more than one pair I had not the means of ascertaining. Few birds are more wary and less easily procured than the Megapodius; it inhabits the belts of brush along the coast, and I never found the tumulus at a greater distance from the sea than a few hundred yards. When disturbed, it seldom rises at once, unless on the margin of a thicket, but runs off to some distance and then takes to wing, flying heavily, but without any of the whirring noise of the true Gallinaceæ. It seldom takes a long flight, and usually perches on a tree, remaining there in a crouching attitude with outstretched neck, but flying off again upon observing any motion made by its pursuer; and it is only by cautiously sneaking up under cover of the largest trees that it can be approached within gun-shot. As an example of its shyness, I may mention that a party of three persons, scattered about in a small jungle on Nogo Island, for the purpose of shooting the Megapodius, did not see a single bird, although they put up several, one of which came towards me, and perched, unconscious of my presence, within twenty yards. At Port Essington I have shot this bird among mangroves, the roots of which were washed by the sea at high water; and Capt. F. P. Blackwood killed one while running on the mud in a similar locality, in both instances close to a mound. I never witnessed the escape of the young from the mound; but one as large as a quail, and covered with feathers, was brought to Lieut. Ince by a native, who affirmed that he had dug it out along with several eggs.'"—Vol. ii. p. 168.

This notice has extended to a most unreasonable length, but I think the long extracts will answer a double purpose: they will interest every one of my readers, and will recommend Mr. Gould's 'Manual' far more effectually than any comments of my own. It is indeed a great pleasure to me to have it in my power thus to promote and encourage the circulation of sound trustworthy Ornithology amongst an English public. I could gladly have dwelt for another dozen pages or so on points still unnoticed, more especially the sixty parrots which are so carefully described, but I forbear, seeing, especially, how large an arrear of work I am indebted both to authors and contributors. Of this 'Manual' I can only add that it is *essential* to every student of Ornithology.

EDWARD NEWMAN.

Notes on the Quadrupeds of Lanarkshire.

By EDWARD R. ALSTON, Esq.

(Continued from page 11).

Hedgehog.—Being anxious to observe the daily life of this curious animal, I procured a fine large male in the beginning of July last. He refused food for the first day or two, but was unable to resist the temptation of a raw egg, and the ice being thus broken he soon became reconciled to captivity. At first he was kept in a large squirrel-cage, but his strong smell being disagreeable within doors, he was removed to one of the small areas to which I have repeatedly alluded. Here he was provided with a sleeping-box with a bed of hay:

towards the end of the month a companion was got for him, and a third specimen was afterwards added to this "happy family." On the second hedgehog being placed in the area a fight took place, but after a time the two became good friends, although they sometimes quarrelled at meal-time. The mode of attack was usually as follows:—One hedgehog got behind the other, and tried to seize it by the hind leg or by the unprotected skin of the belly, when the assailed party uttered a short snort, elevated his spines, and either turned on the enemy or beat a retreat. They were never heard to utter any cry, unless this angry snort can be so called, and appear to be almost as mute as the kangaroo. They very soon became quite tame, or rather fearless, not even rolling themselves up when handled. They all seemed to object very much to being disturbed in their mid-day slumbers: if removed from their sleeping-box they scuttled back again with ludicrous haste. When asleep they lay half-rolled up, with their heads between their fore legs. At sun-down they came out to feed and to walk about their prison-yard, and I believe that they remained wakeful the whole night. The gait of these hedgehogs was very peculiar; first a short run, then a pause, and then another advance: if any one approached they sat up on their haunches and sniffed the air in the direction of the intruder. I am sorry I cannot give them a good character for cleanliness, for they carried what meat they could not eat into their house, and seemed content to sleep on the putrifying mass: probably they feed on the maggots which are thus bred. They were fed principally on raw meat and bread and milk, which last they lapped like a dog. In eating they had a curious way of smacking their lips loudly, biting sideways like a pig. They could never be induced to eat fruit or roots of any kind, although they are said to be very fond of some kinds. An egg was a special delicacy, and was always eaten in the same way: a hole was bitten in the shell, and the contents licked out, the opening being enlarged as they went on; many small fragments of the shell were swallowed, but not digested. When small animals were given them the entrails were always eaten first; indeed this appears to be the usual habit of the Insectivora, just as the head and neck are the titbits of the weasel tribe: I have observed the same habit in the common shrew and the mole (Zool. 9707). As F. von Tschudi states that these animals devour moles when they find them on the surface I gave a dead one to my first hedgehog: next morning nothing was left of it but the tough skin, neatly turned inside out, part of the head and the limbs; all the rest of the bones, some of which are powerfully developed in the mole, had been devoured. At another time a large rat was disposed of in like fashion; mice and frogs were also eaten, but shrews were rejected. Towards the end of October the hedgehogs appeared not to be thriving; one of them died, and the other two were set at liberty. On the 6th of July last I saw a hedgehog's nest, which had been mown over on a bank; the two young ones, apparently about a week old, were deserted by their mother. The nest was placed in a hollow in the bank, and was a large domed structure of moss and dead leaves. The young ones were hideous little brutes, with large shapeless heads, swollen toad-like bodies, and short sprawling limbs: their backs were thinly covered with short spines, which were rapidly becoming hard; some were dark and others white. The rest of their skins was livid, naked and wrinkled, and their eyes were not yet open. White of Selborne (in his thirty-fourth letter) describes a litter of these "little pigs" as having small *hanging* ears, but this was not the case with the present specimens, which I have preserved in spirits.

Brown Rat.—In summer many rats live in burrows in banks and hedge-rows, returning to the houses and farm-yards when winter approaches. When pursued by dogs I have often seen them climb trees, showing a great deal of activity among the branches. Mr. Buckland, in his 'Curiosities of Natural History' (first series, p. 91), gives an account of the way in which rats gnaw the elephant-tusks in the ivory-warehouses of London, and it would appear that this is not their only peculiar and expensive taste; some years ago a large quantity of amber pipe mouth-pieces were destroyed in a tobacconist's shop in Glasgow by these animals, the marks of their sharp incisors being distinctly visible on the remaining fragments. So little has been recorded of the progress of the great murine invasion of the last century that I am induced to quote the following passage from the 'Statistical Account of Scotland' (by the parish ministers), thinking that it will probably be new to most of your readers:—"Their first appearance (in Peebleshire) was in the minister's glebe at Selkirk, about the year 1770 or 1777, where they were found burrowing in the earth, a propensity which occasioned considerable alarm, lest they should undermine houses. They seemed to follow the courses of waters and rivulets, and passing from Selkirk they were next heard of at the Mill of Traqhair; from thence, following up the Tweed, they appeared in the mills of Peebles; then, entering by Lyme Water, they arrived at Flemington Mill in this parish (Newlands), and coming up the Lyme, they reached this neighbourhood about the year 1791 or 1792." (Stat. Acc. Peeblesh. p. 136.)

EDWARD R. ALSTON.

Stockbriggs, Lesmahagow, January 4, 1866.

Ornithological Notes from Shetland. By H. L. SAXBY, M.D.

(Continued from page 20).

SEPTEMBER, 1865.

September 1. Wind N. Sudden increase in the number of rock pipits.
" 2. " S.E. Oystercatcher last seen.
" 3. " S.E. Curlews re-appearing along shore.
" 3. " S.E. Ravens becoming more numerous.
" 22. " S.W. Several male chaffinches arrived.
" 30. " S.E. Young wheatears still remaining.

Knot.—During the early part of the month knots continued to appear in large numbers. On arriving here they are exceedingly tame, so that it is by no means difficult to approach within half-a-dozen yards of them upon the open shore, but they soon become suspicious, and when once fairly roused fly high and wildly, wheeling over the ground many times before alighting. Usually we meet with them in small parties of about a dozen, but occasionally several of these join and continue in company for days together. Whatever may be the case elsewhere, here they seem to prefer gravelly to sandy or muddy places, the attraction, no doubt, consisting in the myriads of small periwinkles which are found below high-water mark in the former situations. Knots generally keep close together while feeding, and although some occasionally stray apart, they seem to become suddenly aware of the fact, and hastily return to the main body. As far as I can ascertain, it is their custom to feed silently, but the moment an intruder is perceived, without interrupting their employment, they commence a constant low chattering, not unlike that made by a flock of starlings, but when too closely approached they stand motionless for a few seconds and then fly off, uttering louder cries. Very often they alight close to their dead or wounded companions, not taking wing again until the shooter is within a few steps of them, and even then they are nearly sure to realight close to the same spot. When wounded these birds will crouch and hide if they happen to fall upon the land, and stones thrown at them only cause them to crouch still closer, but on falling into the water they use every effort to escape, and swim remarkably well, but I am not aware that they dive on such occasions. Only a few days ago one which was slightly wounded and had fallen into the water made such good use of the feet and the sound wing that, although unable to rise from the surface, and notwithstanding a brisk gale, it very soon reached a small holm about fifty yards to windward. They avoid turning back to the wind when they drop into the water, for a strong gust is very liable to catch them under the wings and plunge the fore part of the body beneath the surface. Their plumage suffers less from immersion than does that of most other sandpipers. At all times, but more especially during flight, the white upper tail-coverts are conspicuous.

Lesser Blackbacked Gull.—Lesser blackbacked gulls remained in Unst up to the 6th of September. Last year their departure took place about a week earlier.

Turtle Dove.—The turtle dove mentioned in my last communication (Zool. S. S. 19), remained until the 9th of September (wind S.). It regularly came to roost in one particular tree about sunset every evening, but I could never even hear of it in the day-time.

Gannet.—On the 20th of September some boys brought me a fine adult male of this species, which they had just caught upon the hill of Vallafiel, about half a mile from the sea. They said that, after making some slight attempts to escape, it turned and attacked them with its bill when they drew near. It was in good condition, and had apparently been in perfect health at the time of its capture; therefore it seems probable that the boys were correct in their statement that the length of its wings hindered it from rising from the level ground.

Sky Lark.—Sky larks were heard singing from the 20th of September to the end of the month. The song was less powerful than in spring, and but slightly varied.

Golden Plover.—Golden plovers are still numerous, but the flocks are smaller than they were some weeks ago.

Heron.—On the 20th of July a living heron was brought to me by a man whose dog had caught it upon some marshy ground by the Loch of Cliff. It was evidently a young bird of the year, and although it was well grown and fully fledged, a considerable quantity of down was yet remaining among the plumage, particularly about the top of the head, where there were also some long, slender filaments, very much resembling shreds of tow. Thinking that the bird would soon recover from the slight injury inflicted by the dog's teeth, I turned it into some fields where there were several large pools and a few streams, all well stocked with trout; but here it was soon discovered by some boys, who, after keeping it for some days without being able to make it take food, sold it to a friend of mine, who immediately sent it as a present to me. Unfortunately for my hopes of gaining some information as to the changes of plumage and the times of their occurrence, it lived no longer than two months. Having turned it loose into the garden, I placed near it a pan of water containing fish of several kinds, but next morning they still remained untouched, and the bird appeared to be dying. I then placed a small trout between its mandibles, and it was instantly swallowed with eagerness; next day the process was repeated, and afterwards I continued the supply regularly, but in larger quantity. The bird very soon grew strong, and in a few weeks would come running towards me when I called, sometimes greeting my appearance with notes resembling those of an adult, though they were not so loud. It rapidly became exceedingly tame, never attempting to leave the garden, and allowing me to carry it about and handle it as I pleased. No preference was shown for any particular kind of food; trout, pollacks, flounders, small birds, slugs, earth-worms, and even bread, were each swallowed with equal satisfaction, but up to the very last day of its short existence it could never be prevailed upon to take food of its own accord, even after long abstinence. When fish were thrown into the water, the bird lowered its bill so as almost to touch the surface, and there would remain perfectly motionless for many minutes, as though fascinated. Even after health and strength were fully regained, it displayed but little activity, except during the night, when it would occasionally wander as far as the garden-walls would permit, but why it never made use of its wings to pass the barrier I am unable to imagine. For the first few days it remained in one spot, sleeping with the bill and the fore part of the head concealed beneath the angle of the wing. On the sixth day I missed it, and after some trouble found it sitting upon a branch about two feet from the ground in the middle of a thick bush, and ever afterwards it showed a decided preference for like situations. In feeding it, I inserted the fish between the tips of the mandibles,—a very short distance was sufficient,—then, on my withdrawing my hands, the bill was pointed towards the ground, and by a series of jerking movements the fish was rapidly brought as far as the throat, when both neck and bill were pointed upwards, and the jerking continued until the tail of the fish disappeared; then the neck was gradually retracted and all voluntary effort to swallow ceased. The lower mandible was capable of considerable dilatation at the base, so that a morsel of food four inches in diameter could be swallowed without much difficulty. During the whole process, and especially when it was much prolonged, saliva flowed abundantly, but nevertheless it was always necessary for me to dip the food in water before offering it. Fish were never swallowed otherwise than head foremost. I never saw them tossed in the air and caught again, in the manner described by some authors, but with the bill pointed towards the ground they were shaken about, suffered to fall for a short distance, and quickly grasped again, until, by frequent repetition of the process, they were brought into the desired position. The grasp of the bill was exceedingly powerful. Once, in my haste, I clumsily inserted a finger instead of a fish, and thus, as the bird quickly drew back its head, the finely serrated edges of the upper half of the bill inflicted two deep cuts as cleanly as if they had been made with a knife. After the food had been swallowed, the tongue was often rapidly protruded and slowly withdrawn. In stuffed specimens of the heron, the wires which support the legs are usually so placed that the so-called knees are widely apart; in this individual, however, those parts were so close together as sometimes to meet, thus causing a very unpleasing "knock-kneed" appearance. Another mistake upon the part of the bird-stuffer is to place the eyes quite flat in the head: on looking from above upon the head of the living bird it will be seen that they project considerably posteriorly, so as to look forwards. Almost everyone who has seen a recently-killed heron, must have observed upon the bill and legs a peculiar bluish powder resembling the "bloom" upon a plum. Not long ago I read somewhere that this was a luminous substance secreted for the purpose of attracting fish at night. Delighted with the idea, I at first hung up dead herons in dark cupboards, but, unfortunately for the above ingenious theory, the cupboards remained as dark as before, and even when, thinking that this was in consequence of the birds being dead, I visited my short-lived captive under the trees one dark night, so far from beholding "a faint glimmering as of subdued moonbeams," so eloquently described by the author alluded to, I with difficulty made out a shapeless black lump. The powder is not found upon the bill and legs alone; the whole plumage is filled with it, so that it comes off upon one's clothes, and when the bird falls into calm water, a large quantity of bluish dust immediately spreads around upon the surface. I often rubbed it from the legs and bill, and those parts invariably remained free from it as long as they were kept from contact with the plumage. As to the supposed use of the pectinated middle claw I can say but little. That claw alone was used in scratching the neck and head, a process which was repeated very frequently, but again, unfortunately for theory, it must be observed that barn-door fowls have precisely the same habit. Possibly these notes contain nothing new, but I have nothing better to offer, the poor heron having wandered one dark night into the garden-well, from which the stepping-board had been thoughtlessly removed by a servant.

OCTOBER, 1865.

Sky Lark.—During the early part of October sky larks were still singing, but nearly the whole of them disappeared as soon as the cold northerly winds commenced.

Brambling.—A few bramblings arrived on the 1st of October (wind S.E.), and their number constantly increased during the next four days; their arrival always took place in the night, and with a S.E. or S.W. wind.

Redwing.—Redwings were first seen on the 2nd (wind S.E.): they fed almost entirely upon rowan-berries, and gradually deserted us as the supply diminished.

Snow Bunting.—On the 4th (wind S.W.) I observed the first snow buntings. They kept to the hills for about a fortnight, after which time the small flocks collected and descended together to the stubble-fields, where they still remain feeding upon the fallen oats. Last year snow buntings appeared one day earlier.

Goldencrested Regulus.—A number of goldcrests also visited us on the 4th. Immediately after their arrival they frequented enclosures in the neighbourhood of houses; but, gradually extending their wanderings, they became distributed over most part of the island. I often met with them upon the stony hill-sides, and upon one occasion on a high sea-cliff.

Wheatear.—A very few wheatears remained as late as the 5th. All of them seemed to be young birds of the year.

Wild Duck.—Large numbers of wild ducks have been arriving during the whole month. On fine evenings I frequently observe them feeding in the stubble with the tame ducks, and upon these occasions it is not very difficult to approach them openly and obtain a long shot.

Twite. — Twites have now gathered into large flocks. In winter, as well as in summer, adult males have red upon the lower part of the back, but in the former season the colour is far less brilliant.

Brent Goose.—On the 6th (wind W.) two fine brent geese, both males, were killed at one shot upon a small loch at Whale Ayr, close to the sea. No others were seen.

Fieldfare.—A small flock of fieldfares arrived on the 12th, and a larger one on the 19th. On both occasions the wind was blowing strongly from the N.E.

Goldeneye and Tufted Duck.—On the 14th I observed small parties of goldeneyes and tufted ducks upon the loch at Belmont, where, I was told, they arrived about ten days previously. One of the former species which fell winged into the water, afterwards escaped two shots by diving. I then sent the dog in after it, but it dived almost under his very jaws, and I never saw it again.

Rock Pipit.—As soon as the snow commenced, on the 16th, large numbers of rock pipits collected from the fields and assembled in the gardens at Halligarth, where many of them still remain.

Common Bunting.—On the 17th a brisk gale from the N.E. brought a large flock of buntings, but, contrary to their custom, they disappeared a few days afterwards.

Lapwing.—Lapwings left us, as usual, as soon as their young were fully fledged: I was therefore not a little surprised to see an individual of this species by the loch at Buness on the 19th, after a stiff breeze from the N.E. Last year I saw one on the 26th of November, but upon that occasion a gale was blowing from the S.E.

Shorteared Owl.—A number of shorteared owls arrived between the 14th and 29th, during a succession of gales from the N. and N.E. They kept mostly to the hills, but I saw one at Halligarth sitting composedly upon the ground beneath some bushes. It must have been sleeping, for it allowed me to walk up within a yard of where it was sitting, and had I observed it in time I might easily have crept up and caught it.

Siskin.—The siskin is extremely rare in this island. I was delighted to observe a flock of about two dozen in the garden on the 24th. They were rather wild, but with a little caution I succeeded in obtaining two specimens, which, however, I have not yet had leisure to examine.

Woodcock.—On the 28th I saw a woodcock rise from among some dead leaves in the garden.

Willow Wren.—On the 29th the gale suddenly changed to S.E. with heavy rain, and while it was at its height I saw a willow wren fly over the south wall of the garden and hastily alight among some bushes: evidently it had been long upon the wing, for it was so exhausted that I might have caught it in my hat, had I been so inclined.

HENRY L. SAXBY.

Baltasound, Shetland, October 31, 1865.

A List of Birds observed in the two adjoining Parishes of Dunipace and Larbert, in Stirlingshire. By J. A. HARVIE BROWN, Esq.

Merlin.—I have shot two specimens of this pretty little hawk, and have seen many more, although it is the least common of the three mentioned in this list. I have risen this bird more than once from heather during the breeding-season, but hitherto have always failed in finding its nest, though I am thoroughly convinced that a few breed in this parish (Dunipace). The merlin is generally known here as the "small blue hawk."

Kestrel.—Local name, the "red hawk." The kestrel is our commonest hawk, and breeds around this neighbourhood every year, in spite of persecutions from the gamekeepers, &c. Breeds regularly in the ruins of Torwood Castle.

Sparrowhawk.—Local name, the "blue hawk." Not so common as the last species, but breeds regularly with us.

Longeared Owl.—Common. Breeds frequently, but not, I think, regularly.

Barn Owl.—Not quite so common as the last-mentioned species. I have only found the nest myself once in these parishes, but I believe that a pair breed regularly in some part of the ruins of an old bleachfield near this. I hear them crying very frequently during the night.

Tawny Owl.—Local. Breeds in Torwood Forest. I have seen a few in Dunipace.

Great Gray Shrike.—Local name, "butcher bird." I have one specimen in my collection, which was shot in Dunipace parish, about seven years ago: it was stuffed by a man in the village, evidently with clay or stucco, by its weight, and spoiled accordingly. In October, 1860, I pursued a very fine great gray shrike for some time; I had no gun with me, or I should easily have secured it, as it was exceedingly tame: at last it flew to some woods across the river, where I could not follow. These two instances of the appearance of the great gray shrike in this parish are the only two I know of, although many of the country people seem to know the "butcher bird" perfectly by name.

Spotted Flycatcher.—Very abundant. It arrives here much earlier than any of the other migratory birds.

Dipper.—Local name, the "water crow." Very common along the water-side. I have found as many as three nests containing eggs in one day. One pair of dippers rear their young almost every season under the arch of a bridge which spans the river close to our house; its nest is placed in a hole at least a yard into the masonry. The local anglers here have a great aversion to the "water crow," as they believe that it destroys the trout ova, and accordingly they destroy in turn every nest and eggs they come to; and this is not as regards the dipper alone, for they treat the nest and eggs of the common sandpiper in the same barbarous fashion. It is of no use attempting to prove to them that they are wrong, for they will only shake their heads and say, "May be, may be," and destroy, perhaps purely from habit, the next nest they come to.

Missel Thrush.—Called here, in common with the fieldfare, the "field-flyer" or "feltiflyer."

Fieldfare.—Arrives here about the end of October in large flocks, and some seasons remain as late as the middle and end of April.

Song Thrush.—Local name, "mavis."

Redwing, *Blackbird*, *Robin*.

Redstart.—Local name, "redtail." Arrives in different seasons, according to my notes from the 20th of April to the 20th of May.

Hedgesparrow.—Local name. "blue sparrow."

Stonechat.—Local name, "stone chacker." Not so common as the whinchat.

Whinchat.

Wheatear.—Common, but local, frequenting large stony fields and moors.

Sedge Warbler.—Sometimes called the "Scotch nightingale." Very abundant. I once took eighteen nests in one day from a piece of marshy ground, over-grown with alder-bushes and bramble, which does not cover more than four acres.

Blackcap.—Also called "Scotch nightingale." Not very common, but breeds regularly.

Whitethroat.

Wood Warbler.—Local names, "white wren" and "smeuth." I found two nests and eggs in the spring of 1863.

Willow Warbler.—Local names in common with the last species.

Goldencrested Regulus.—Local name, "golden wren."

Great Tit.—Local name, "ox-eye."

Blue Tit.—Local name, "blue bonnet."

Cole Tit.—Local name, "coaly head."

Marsh Tit.—Very scarce. I have only seen three marsh tits here, one of which I killed.

Longtailed Tit.

Pied Wagtail.—Local name, "water wagtail."

Gray Wagtail.—Not very plentiful.

Tree Pipit.—Local name, "titlark."

Meadow Pipit.

Sky Lark.—Local name, "laverock."

Wood Lark.—I have only taken one nest and eggs of this bird here, but nevertheless I believe it breeds regularly with us.

Blackheaded Bunting.—Local name, "coaly head."

Yellow Bunting.—Local name, "yite."

Chaffinch.—Local name, "shilfie."

Brambling.—Local name, "storm cock." Never seems to come here in any great numbers. In the winter of 1859-60, when such large flocks came to the neighbourhood of Edinburgh, I only observed three specimens here. In the spring of 1861 I saw a pair of bramblings; they allowed myself and a friend to approach within five yards of them, so we had a good view. We searched long, but vainly, for the nest, and all the time the birds, and especially the female, kept flying around us in an agitated, uneasy manner.

House Sparrow.

Greenfinch.—Local name, "green linnet."

Siskin.—I have never shot or secured a specimen here, but have seen a few frequenting some alder-bushes in winter.

Goldfinch.—Local name, "goldie." Very scarce. I knew of one pair breeding here about three years ago, but lately they have disappeared.

Linnet.—Local name, "rose linnet" or "lintie."

Redpole.—Small flocks in some winters hang about the alder-bushes.

Bullfinch.

Crossbill.—I have never seen the crossbill here myself, but am told on reliable authority that one year they came in considerable numbers.

Starling.

Crow.—Not so abundant as formerly, being kept down, along with the following species, by gamekeepers.

Hooded Crow, Rook, Jackdaw, Magpie.

Jay.—Very scarce. I knew one nest of young jays in 1862, but they were all destroyed, along with the old birds, by gamekeepers.

Creeper, Wren.

Cuckoo.--Arrives with great regularity about the first week of May, and occasionally as early as the middle of April.

Kingfisher.—Local name, "king's fisher." I have repeatedly watched over the breeding-haunts of this beautiful bird, and on two occasions have helped myself to their eggs. One nest I knew was destroyed, along with the parent bird, by the sand-bank in which it was placed slipping down and burying all in a premature grave (Zool. 8954).

Swallow.—In seven years in which I have noted the arrival of the migratory birds I find the swallow stands as follows:—In 1859, on the 22nd of April; in 1860, on the 24th of April; in 1861, on the 12th of April; in 1862, on the 22nd of April; in 1863, on the 18th of April; in 1864, on the 14th of April; and in 1865, on the 10th of April.

Martin.—Not numerous, and every year seeming to become less so.

Sand Martin.

Swift.—Local names, "cran" and "bleak martin."

Nightjar.—Not a very abundant, but a very regular, visitor.

Ring Dove.—Local name, "cushie-doo." I have taken the eggs as late as the 30th of September (Zool. 9113).

Pheasant.

Black Grouse.—In very small numbers.

Red Grouse.—Not abundant: I only know of one spot actually in the parish, where there are perhaps two or three coveys every year.

Partridge.

Golden Plover.—Large flocks attend the ploughed fields in winter, as also the ground occupied by the Falkirk fair or "tryst" at Stennismuir.

Ringed Plover.—I have every reason to believe that this bird breeds in small numbers around Loch Koutre or Colter, as I see them there every spring I go, in company, or at any rate seeming to mingle with the dunlins.

Lapwing.—Local name, "peewit."

Heron.—A few frequent the river every year.

Bittern.—I have seen one stuffed specimen, in a very dilapidated state, belonging to a man in the village, and which was shot about ten years ago by a man who now occupies the position of gamekeeper on our ground, and on whom I can rely for most information, as he knows something about birds, which cannot be said of most gamekeepers.

Curlew.—Local name, "whaup."

Whimbrel.—In August, 1860, I killed two specimens of the whimbrel, after a long and somewhat difficult stalk along the bed of a stream. There was a flock or family party of five. A few days afterwards a flock of seven passed over just out of range, and those are the only whimbrels I have ever seen here.

Redshank.—Local. Breeds in small numbers on the shores of Loch Colter.

Common Sandpiper.—Local names, "sand lark" or "sandy laverock," and "the deacon." The origin of this last name I have tried to discover, but no one seems to be able to assign any reason for it. This bird arrives on our river with great regularity. The five years in which I have taken note of its arrival gives the following dates:—In 1861 it arrived on the 29th of April; in 1862, on the 22nd of April; in 1863, on the 23rd of April; in 1864, on the 12th of April; and in 1865, also on the 12th of April. I have on several occasions seen this bird dive and remain a long time under water, *when wounded.*

Woodcock.—Has bred here, to my own certain knowledge, every year since 1861, included, in greater or less numbers. In 1861, on the 25th of April, I took four eggs, which were in a far-advanced stage of incubation, as the young birds were already covered with down.

Common Snipe.—Considerable numbers come here in winter, as also in the end of July or beginning of August. They breed also in several localities.

Jack Snipe.—A few arrive on our marshes every winter.

Dunlin.—Local name, "pickerell." Breeds in limited numbers around Loch Colter.

Land Rail.—Local name, "corn craig." These birds I have frequently killed by imitating their harsh cry, which imitation often allures them to within a few feet of where I stand.

Moorhen.

Water Rail.—Last winter, 1864-65, I procured in this neighbourhood three specimens of the water rail. I am told, on reliable authority, that none had been seen for more than ten years. One of these three specimens was caught on the public road in an exhausted state (Zool. 9468).

Coot —Not very numerous.

Bernicle Goose.—Only once have I seen a flock of these geese settle here, though frequently I see them passing overhead. Near this, but not in either of the parishes, they come in large flocks, and require to be driven off by the farmers.

Mute Swan.—Common on preserved ponds, &c.

Wild Duck.—More or less numerous, according to the severity of the winter. Very few breed with us.

Teal.

Goldeneye.—A few, especially males, come to the river every year.

Redbreasted Merganser and *Goosander.*—Only occasionally seen.

Little Grebe.—Not frequent.

Gannet.—I have seen a few pass over during stormy weather. One was picked up in an exhausted state in a field in Dunipace parish, after a storm.

Common Tern.—Local name, "sea swallow." This and the following species I have seen ascending the course of the river in stormy weather, but at other times they seldom make their appearance.

Arctic Tern.—I have shot this and the first-named tern on two different occasions.

Blackheaded Gull.—Comes up frequently from the Frith of Forth, both in mature and immature plumage. Used to breed in small numbers at Loch Colter.

Common Gull, Herring Gull.

Great Blackbacked Gull.—Passes over at a great height in stormy weather.

Lesser Blackbacked Gull.—This, along with most of the abovementioned gulls, I have seen sailing on the surface or flying around Loch Colter.

Some other species I might add to this list, but as I am not as yet perfectly certain as to their occurrence, I should prefer leaving the list as it is for the present. Amongst these I might mention the kite, buzzard and golden eagle, as having been seen to pass overhead, but the information and the somewhat rough descriptions given by the people of these parts cannot with perfect safety be used as reliable information.

J. A. HARVIE BROWN.

Dunipace, Falkirk, December 13, 1865.

Ornithological Notes from North Lincolnshire.

By JOHN CORDEAUX, Esq.

(Continued from p. 9802.)

OCTOBER AND NOVEMBER, 1865.

Shorteared Owl.—On several occasions during the last month I have seen these owls in our marsh district. Their usual haunts are the shorn wheat-stubbles, or amongst the long grass and reeds on the banks of the drains. I now very seldom cross the shorn stubbles in the marshes without putting up some of them. To-day (November 30th) I put up one in this situation, and shortly afterwards two more of these birds rose before me from the grass on a drain-bank. They are extremely tame and fearless, often allowing me to approach within a few yards without rising, and, on taking wing, seldom fly far, often not out of gun-shot. My dog has frequently pointed them in these long stubbles: in one instance the owl seemed more inclined to fight than to turn tail; it scarcely rose above the stubble before it perched again on a clod, not more than three yards away, and all the time intently watching the setter, who still remained staunch to his point. I have been informed that several others have lately been seen in this district, and on the 9th, when out shooting in a neighbouring parish, I flushed one in a plot of mangold-wurzel. As they are not likely to be disturbed by roving gunners, I trust they will remain with us during the winter. Some few years since, when crossing a piece of boggy land in this parish, in great part overgrown with rushes, my dog came to a point: on going up five owls rose: one that I fired at fell slightly winged, and, after a violent resistance and a severe scratch or two from his sharp, needle-like claws, was safely stowed away in the net of the game-bag. On reaching home I turned him out into a two-stalled stable, his only companion being an old pointer. For several days I tempted him with small birds, mice, raw beef, &c., but to no purpose; he resolutely refused everything, and I began to despair of ever being able to keep him in confinement. Going into the stable one night with a bull's-eye lantern, I threw the light upon the place where my captive generally sat crouched in the straw under the crib, but no owl was there: on looking into the other stall I was astonished to see him up to his thighs in the dog-pan, coolly helping himself to the dog's supper, while his four-footed companion looked down with evident satisfaction at his strange comrade. From this time he threw away all shyness, and ran into the opposite extreme: every evening he was regularly supplied with three sparrows, and occasionally one or two during the day, sometimes varied by a young rat. I invariably found everything eaten up by morning; sometimes the heads were left, but this was not always the case. The fatter he grew the fiercer and more combative he became, and I never succeeded in any degree in taming him or making him acknowledge his protector. It was extraordinary, however, to see the friendship which sprang up between the pointer and owl. On anybody entering the stable the bird would jump away, and place himself close to his friend "Don," not unfrequently ensconsing himself between the dog's fore legs, snapping and hissing at every one that approached, and evidently to the great delight of his friend, who frequently looked down upon him with the utmost complacency. Requiring the stable I had him removed into a large granary: here during the day he generally sat *perched* on the edge of an old corn-screen, which was placed away on a rafter near the roof. I fancied his appetite had decreased with this change of abode, as on several occasions I found the sparrows, with which he had been supplied the previous evening, untouched, but this was soon accounted for by finding the skins and bones of mice amongst the castings; he had commenced foraging on his own account. Shortly afterwards, his wing having quite healed, he one dark morning, much to my regret, escaped through the door, and I never saw him again.

Hooded Crow.—October 7. Observed, for the first time this season, a party of hooded crows in the marshes. I am informed some were seen in the neighbourhood on the 30th of last month. This is, however, early for them to appear.

Peewit.—During October and November we have had immense flocks of peewits on the lowlands and marshes, equal to, if not greater than, the large flights of these birds which visited this district in the autumn preceding the severe winter of 1860-61. Like the golden plover, during wet and showery weather they are wild and restless, constantly on the wing, passing and repassing, often at an immense height, over the marshes.

Gray Plover.—October 25. Some few solitary birds seen on the fore shore. One I procured greatly resembled a golden plover in winter plumage; the upper parts darkish brown, with the edges and markings on the feathers the golden colour seen in Charadrius pluvialis. The under parts white; the rudimentary hallux and black axillary feathers at once determining the species.

Golden Plover.—November 4. Saw the first flock of golden plovers.

Very few of these birds have as yet (November 30th) arrived in this district.

Knot.—November 4. This evening, shortly before sunset, I witnessed a most extraordinary gathering of knots on the Humber flats. When at some distance from the bank I was attracted by the noise made in their occasional short flights along the coast; the roar, or rather rush, made by their wings in flight reminding me, more than anything else, of the noise made by a mighty host of starlings when settling down for the night. On cautiously peering over the embankment a beautiful and very striking scene met my gaze. The tide was coming in, and from three to four hundred yards of the flats were still uncovered: in the west the sun was going down in a blaze of glory, and the usually gray and dreary mud plains had borrowed the gorgeous colours of sunset—they were purple with reflected light—while beyond, the great river in all its tranquillity, and almost unbroken by a ripple, was barred and streaked with purple, gold and crimson. Thousands and thousands of knots were massed together on the fore shore; here crowded as closely as they could sit, then again straggling out into a more open line, and then again massed together by thousands. Some hundreds of yards in length and about thirty in breadth, along the edges of the water, were fairly crowded with them. One part or other of this great congregation was almost constantly on the wing, flying over the heads of those sitting, and then settling again. All the time they kept up what I may almost call a continual warbling: the blended notes of so many birds was so completely unlike the usual sharp cry of the knot that at first I could scarcely believe it came from that species: it more approached what would be the twittering of a countless flock of linnets. Shortly before sunset the flock rose, taking a course directly across the Humber: they did not all rise together, but commencing at one extremity gradually took flight; when all on the wing their appearance was that of an immense dark undulating line of smoke from the funnel of a steamboat.

Blackbird.—November 4. I heard, as I returned home this evening across the marshes, a blackbird in full song; the notes came from a solitary hawthorn, the only bush or tree within some distance. On looking at my watch it was just 5.10, and was so dark at the time that objects were not clearly discernible fifty yards away.

Wild Geese.—November 7. Examined two wild geese shot on the Humber; one was a bean goose, the other a fine specimen of the now rare graylag (*Anser ferus*).

Gray Wagtail.—November 10. Saw the first gray wagtail.

Snow Bunting.—Have lately seen several flocks of these lively, restless buntings in the marshes, and remarked that they contain many more of the full-plumaged adult males than is usually the case.

JOHN CORDEAUX.

Great Cotes, Ulceby, Lincolnshire,
December 1, 1865.

Ornithological Notes from Shropshire. By JOHN ROCKE, Esq.

(Continued from page 9782.)

Green Woodpecker (Picus viridis).—Shy and retiring in its habits, this handsome bird is usually found in our parks and woods, where the oak and its varied companions have arrived at full maturity. Occasionally I am gratified by a slight contemplation of its lovely hues on my lawn, attracted for the moment by some insect-life to us unseen. I consider it a common bird, and I trust it may be long before the ruthless hand of destruction will have accomplished the extermination of this, one of the most interesting of our constant residents.

Great Spotted Woodpecker (Picus major).—Much more rare than the preceding bird, though a good many are to be found in this county. They also breed pretty regularly with us. I knew of a nest last year in a tree on the banks of the Clun, which I trust came to maturity.

Lesser Spotted Woodpecker (Picus minor).—This most interesting little woodpecker was very abundant here this summer. I knew of three or four pairs within a radius of less than two miles of this house. They are usually considered very rare birds, though I think this arises in a great measure from their being so easily overlooked. Were it not for the singular noise they make whilst in search of their food, I believe this would be the case much oftener than it is. Though I watched them a great deal this season, I failed to discover exactly the way in which that noise is produced: I think a succession of rapid strokes with the bill must be the cause, though one is astounded at such a result being the efforts of so small a bird: it is very like rending a large tree in twain, and can be distinctly heard at a very considerable distance. I called the attention of a friend to it one day this spring, and, although a very good naturalist, he was quite at a loss to account for the noise, and was still more surprised when, after we had walked a good half-mile, I pointed out to him the little bird, in an ancient willow-tree, which was the cause of it all. The nest is generally very difficult to discover. I was fortunate in finding one, a few years ago, in a decayed alder-tree. A starling had taken possession of the upper portion of the limb, and a little below, in another hole, was the so-called "nest" of the little woodpecker, containing five beautiful pink eggs. I shot the mother, and made the best atonement I could by placing her in my museum.

Wryneck (Yunx torquilla).—Not at all an uncommon bird, though one that usually attracts little attention, except from its peculiar cry, which much resembles that of some of the smaller hawks. It is welcomed as the forerunner of the cuckoo, and is well known, I believe, in most counties by the appellation of "cuckoo's mate."

Common Creeper (Certhia familiaris).—Another of the most beautiful and interesting of our residents. I have for two or three years in succession watched a pair engaged in the process of making their nest, in an arbour constructed externally of small upright larch-poles, and lined with boards and matting. Without exhibiting the slightest fear of mankind, everything is carried on with a sort of mouse-like cunning: an aperture is selected between two poles, sufficient to admit the bird, and the nest is constructed some little distance below, safe from the weather, and almost concealed from observation. Here the brood was hatched and carefully tended by the parents, in the same noiseless stealthy manner, until on a certain day some tiny heads began to show themselves: this seemed to be the prelude to a general departure, for very shortly afterwards each little occupant was seen to wriggle itself upwards until it had gained a footing, and at once to take to flight.

Wren (Troglodytes vulgaris).—Beautiful in its simplicity, this little bird is an universal favourite. Summer and winter it haunts our gardens and dwellings, enlivening us at intervals with its voice,—wondrously powerful for so tiny a frame,—and choosing the most marvellous spots wherein to build its beautiful nest, even to the interior of the dried-up body of a scare-crow rook.

Hoopoe (Upupa epops).—This singular and very handsome wanderer has been frequently seen and obtained in the county. There are two specimens in Lord Hill's collection, killed at Acton Reynold. The late Mr. Slaney saw the bird at Walford Manor. Mr. Eyton mentions one killed at the Black Birches. My friend Mr. Herbert Crawshay pursued one unsuccessfully near Burrington Pool, on the Downton Castle Estate, and I saw a good example last year, obtained near Oswestry.

Nuthatch (Sitta europæa).—Very common in this neighbourhood, where orchards abound. If tempted with nuts or crusts of bread placed on the window-sill, it is astonishing how tame they soon become, appearing every morning with the greatest regularity, and carrying off the looked-for morsel almost from the hand that dispenses it.

Cuckoo (Cuculus canorus).—Exceedingly numerous here this summer, though I was not sufficiently fortunate to discover any of their eggs. I saw young birds after they had left the nest, and heard of one, not far from the house, actually in the nest, but it was gone before I could see it. Five or six of these birds seemed to have attached themselves to the flower-garden the whole summer, and I should say neither slumbered nor slept; from long before midnight till dawn one incessant jargon seemed to be carried on by the whole company. They appear in this part every spring with the greatest regularity, Orleton Fair, which usually falls on or about the 24th of April, being the day on which we look for them, and they are, generally speaking, true to a day.

Kingfisher (Alcedo ispida).—Oh! that I could enlist the ladies on my side, in order to put a stop to the wholesale destruction of this, the most beautiful, as well as the most interesting, of our native birds. Surely the tropics, if bright colours are indispensable, would supply their wants, and we might still be gratified, when wandering along the margin of the purling brook, with the occasional glimpse of a bird, the beauty of which few who have not seen it on the wing can appreciate.

Swallow (Hirundo rustica), *Martin* (H. urbica), *Sand Martin* (H. riparia) *and Swift* (Cypselus apus).—These four summer visitants are all very abundant. The little sand martin is the first to appear, and is speedily followed by the swallow and martin. The swift arrives considerably later. I should advise any one in search of the eggs of the sand martin to beware of fleas; I have seen them this summer, before the birds had begun to sit regularly, congregated in positive heaps in front of the holes: what must be the sufferings of the young birds I am at a loss to conceive.

Nightjar (Caprimulgus europæus).—Very common in many parts of the county, and I should say pretty evenly distributed over it. I often see them on our moor-lands and in the young plantations which cultivation has added to them. They breed regularly, and in considerable numbers, on the confines of Hawkstone Park.

Ring Dove (Columba palumbus).—An exceedingly common and very destructive bird; in fact, the attention of our agriculturists will have to be directed towards keeping this bird within bounds, as in places where they appear, as they do about here, in large flocks, I consider the damage caused by them to the root-crops and young clovers to be greatly in excess of that done by the much-persecuted "coneys."

Stock Dove (Columba æenas).—Another very common bird in this county. I seldom see a large flight of so-called "wood pigeons" without several of these birds being mixed up with them. They are easily recognized by their short blunt appearance. I am not aware of the true rock dove ever having been met with in Shropshire, though I know it has the credit of belonging to us. As the stock dove is generally designated by gamekeepers and others as the "blue rock," this has, in all probability led to the error.

Turtle Dove (Columba turtur).—Plentiful in this county, where it takes its provincial name of the "Wrekin dove," from the celebrated Shropshire hill. They were peculiarly abundant this summer in this district, and I knew of a great many nests. About August they congregate in considerable flocks in the fields, like the ring dove; I have seen fifteen or twenty at one time upon the wing.

Sand Grouse (Syrrhaptes paradoxus).—I gather from Mr. Alfred Newton's most excellent account of this bird, published in the 'Ibis,' that Shropshire can boast of having been visited by the largest flock of these mysterious strangers recorded in England during the late irruption. Two were killed at Oswestry from nearly one hundred birds. I was informed of the capture of these specimens, but was not at all aware that they had appeared there in such astonishing numbers. A flock of eighteen were also mentioned, in the 'Field,' as having occurred near Ludlow. I much regret that I never was able to meet with any of these most interesting invaders, nor have I been able to obtain even a stuffed example of them.

Common Pheasant (Phasianus colchicus). — The rearing of pheasants by hand has of late years been carried to such an extent that one begins to look upon them more in the light of poultry than of wild birds; and the numerous foreign crosses resorted to have almost entirely destroyed the original character and markings of the bird.

Black Grouse (Tetrao tetrix).—Numerous in many parts of the county; the Black Hill, the Longmynd and Clun Forest produce them in considerable abundance. The Brown Clee Hill, as well as

Titterstone, occasionally boast of one or two broods, and I have known them to be on the High Vinealls above Ludlow, also on Stow Hill, near Knighton. Most of the Radnorshire hills are frequented by them in tolerable numbers.

Red Grouse (Lagopus scoticus).—Common on the Longmynd and on Clun Forest. Cultivation has driven them from the Black Hill, where they formerly found a dwelling-place. They still thrive in considerable numbers on the Beacon Hill, in Radnorshire, and increase largely as the interior of North Wales is approached.

Common Partridge (Perdix cinerea).—Very abundant this season. A dry summer and the vermin kept under seems all that is necessary for the production of this useful bird in almost any quantity.

Quail (Coturnix vulgaris).—By no means common, although I am informed that they occasionally breed in the sandy districts around Shiffnal. I saw one here in a turnip-field on the 9th of last September, which was twice shot at, but was not obtained. Since that date I have seen and heard of three or four more that were met with in the county. Still they are uncertain visitants, and I consider them very rare. I do not remember having seen the bird in this parish for nearly twenty years previously to the one recorded in September last.

Great Plover (Œdicnemus crepitans).—I only know of one specimen, killed on Ponsart Hill, a few years ago, by Mr. Charles Vaughan.

Golden Plover (Charadrius pluvialis).—Occasionally met with on the Longmynd and other high grounds. Mr. Eyton mentions the hills above Chirk Castle as a locality where they breed, but I do not think the bird is common anywhere in this county.

Dotterell (Charadrius morinellus).—Still more rare than the preceding bird, though they have been known to frequent the Longmynd. I have seen a specimen in the collection of the late Mr. Pinches, obtained from that locality.

Peewit or Lapwing (Vanellus cristatus).—Very numerous in many parts, and remains the whole year. I have observed their numbers to be greatly increased as spring approaches, and they are then generally congregated in large flocks before the period of nesting commences.

Turnstone (Strepsilas interpres).—Has occurred two or three times, but is very rarely met with so far inland.

Oystercatcher (Hæmatopus ostralegus).—Occasional.

Heron (Ardea cinerea).—The facilities afforded by railways for the transport of our large oak woods have reduced the breeding-places of this fine bird; still they are to be found in considerable numbers wherever they are protected; and I believe some heronries exist in the county. The decoy at Oakly Park forms a sanctuary for them, and they often abound there. I have frequently reared these birds from the nest, and most interesting and amusing pets they are; tame to a degree, they seem to place the most utter confidence in man. Unfortunately, from my close proximity to a river, I have never been able to prevent them straying, and sharing the usual fate of all pets. It is astonishing the amount of fish they will consume, if regularly supplied; their digestion seems as rapid as their appetite is insatiable. By constant examining, I have had a male bird that, at four months old, exhibited the long pendant crest and beautiful fibrous hackles usually only found on the adult bird.

Squacco Heron (Ardea cornuta).—This rare and beautiful little heron was killed some years ago at Bockleton, under the Brown Clee Hill; it was shot at the pool by Mr. John Patrick, and by him presented to Mr. George Henry Dansey, of Ludlow, in whose possession it remained until his death. It was stuffed by Mr. Ambrose Grounds, of that town. I believe it was a male bird, and was in very fine plumage.

Bittern (Botaurus stellaris).—Few winters pass without a certain number of these birds being sent in for preservation. I possess two singularly fine specimens, one killed at Ellesmere, the other obtained in January, 1864, in a garden in the village of Bromfield, where it had been seen for some days previously. It was kindly presented to me by Lady Mary Windsor Clive, and is certainly one of the most richly-marked birds I ever saw.

Night Heron (Nycticorax Gardeni).—I am only aware of one specimen ever having been killed in Shropshire: it was in immature plumage, and belonged to the late Mr. Stanier, of Wroxeter.

Glossy Ibis (Ibis falcinellus).—In 1864 two very fine specimens of this rare bird were killed near Shrewsbury; one of them was preserved by Mr. Franklin, of that town; the other, which fell to the gun of the Sundorne keeper, was thrown away and never heard of till it was in too high a state of decomposition to be of any use.

Common Curlew (Numenius arquata).—Occurs at Whixall Moss, where I believe it breeds; it is also found in considerable numbers on Clun Forest, the Longmynd, and most of the Radnorshire hills. I spent a pleasant day on Clun Forest the beginning of last May, in the hope of finding the eggs of this bird; unfortunately the day was rather wet and foggy, which prevented me seeing any great distance, and these birds are so wary that their nest is at all times difficult to discover. I saw plenty of birds, but think they had scarcely begun to lay: I failed to discover their eggs, but was amply repaid, in seeing on that fine wild expanse of hill, almost in one view, the raven, black and red grouse, lapwings, curlews, snipe, and a great number of our larks and smaller birds. Another season I trust I shall be more successful, and am also in hopes that I shall discover the whimbrel breeding in that locality.

Whimbrel (Numenius phæopus).—Several specimens have been met with in this county, but it is my present opinion that it is much more rare than the curlew.

Redshank (Totanus calidris).—Occasionally met with, but by no means common.

Green Sandpiper (Totanus ochropus).—Frequently obtained, and at almost every season of the year. Mr. Henry Shaw informs me that, whilst fishing in Condover Brook one day the summer before last, he came upon a pair of these birds, which, from their actions, had evidently a nest somewhere near. He searched the rushes and rank herbage by the side of the stream, but of course in vain: had he known at that time that the most probable locality was in the deserted nest of a crow, he might have had the great satisfaction of adding this bird to the list of those that breed in the county.

Common Sandpiper (Totanus hypoleucos).—Very common on the River Teme near Leintwardine, from which locality I have often obtained the eggs. It arrives early in April, and appears to be pretty generally distributed over the various rivers and streams in the county.

Greenshank (Totanus glottis).—I have met with this bird on two or three occasions, always in the autumn. I saw one fly up from a small pond last August. It is usually very wild and difficult to approach, and exceedingly strong on the wing, mounting up to a great height in the air when disturbed.

Blacktailed Godwit (Limosa melanura).—Not often met with so far inland, and has rarely been obtained in this county.

Bartailed Godwit (Limosa rufa).—Much oftener met with than the preceding bird. It has been killed several times in Shropshire. Lord Hill has a good specimen in his collection, of a male bird in winter plumage, killed at the Twemlows.

Ruff (Machetes pugnax).—The only specimen I know of is in the possession of Mr. Franklin, of Shrewsbury. It is an immature male in winter plumage.

Woodcock (Scolopax rusticola).—Appeared very early this season; I knew of several killed in the first week of October. These birds vary greatly in their numbers, which I think are visibly on the decrease. There are several recent instances of their having bred in this county.

Great Snipe (Scolopax major).—A fine specimen was killed at Eaton by the late Mr. Pinches, of Ticklerton, and there are many other instances of its capture on record.

Common Snipe (Scolopax gallinago).—I fear drainage and a better state of cultivation has driven this bird from most of its former haunts; except by the river-side, its appearance is now very rare. It still continues to breed on Clun Forest and many of the Radnorshire hills. I saw several on the forest this summer, and had the gratification of hearing that peculiar "bleating" which only occurs during the period of nesting. I have a snipe in my collection, taken from a lot in a fishmonger's shop in Shrewsbury, which has puzzled me and many others who have seen it. The bird is fully one-third larger than the usual common snipe; the buff markings on the back and scapulars are very broad and richly coloured, and the beak is very much longer than others with which I have compared it. Can we have two sorts of snipe in this country, or are there occasionally "giants in the land?"

Jack Snipe (Scolopax gallinula).—At no time very common, but now rarely met with.

Curlew Sandpiper (Tringa subarquata).—One specimen in the collection of Mr. Eyton, killed on the old race-course near Shrewsbury.

Knot (Tringa Canutus).—Not unfrequently met with, and usually in the summer plumage.

Little Stint (Tringa minuta).—I give the occurrence of this bird on the authority of a very respectable farmer, who informs me that he saw a flock of them last winter on the River Teme, numbering some twenty or more birds; he killed six or seven of them at one shot, and, imagining that they were common, and that I had the bird, they were eaten. I am rather cautious of advancing this fact, not having seen any of the birds, but I know of nothing else to which I can refer them. I do not think they were dunlins, as they were represented to me as being much smaller than that bird. If correct, it is the first time I ever heard of their occurrence in these parts.

Schinz's Sandpiper (Tringa Schinzii).—One specimen, killed some years ago on Stoke Heath; in Lord Hill's collection.

Dunlin (Tringa variabilis).—Occasionally met with, but uncommon. One example was killed by the late Mr. Pinches, at Ticklerton.

Purple Sandpiper (Tringa maritima).—Occasional, but very rare.

Gray Phalarope (Phalaropus lobatus).—Has frequently been obtained. I possess specimens killed at Condover and at Clungunford. It has also occurred at Montford Bridge and in many other localities.

Land Rail (Crex pratensis).—Very numerous this summer: I knew of two nests in one clover-field on my farm.

Spotted Crake (Crex porzana).—Often obtained on the banks of the Severn and in the neighbourhood of Shrewsbury. I do not remember its occurrence more than once or twice in this district, but it is a bird that is easily overlooked.

Water Rail (Rallus aquaticus).—Not uncommon, but more frequently met with in winter than at other times.

Moorhen (Gallinula chloropus).—Common on every river, pond and brook in the county.

Coot (Fulica atra).—Few people are aware of the great beauty of the young of this bird when first hatched. Having opportunities of seeing them very often when just leaving the shell, I can fully bear testimony to the correctness of Mr. Wolf's beautiful drawing in the 'Birds of Great Britain.'

JOHN ROCKE.

Clungunford House, Shropshire,
October 31, 1865.

(To be continued.)

Ornithological Notes from Norfolk, during October, November and December, 1865. By HENRY STEVENSON, Esq.

(Continued from Zool. 9808.)

October 7. A fine redthroated diver, in full breeding plumage, killed off the mouth of the Yare, and a fine old gannet, near Holt, probably driven inland by stormy weather. I have since had the pleasure of examining no less than five redthroated divers in nearly full summer plumage, killed at Cromer, Hickling and Yarmouth, between the 5th and 16th of October: of these the most perfect bird, though killed later than the others (16th), had the gular patch quite pure, and only a few white feathers near the base of the bill, on one side, indicated a state of change: the back in this bird had no spots of any kind, but was of one even cinereous tint. The rest exhibited more or less white in the cheeks, and a few white feathers appearing in the red patch, but were still in beautiful plumage. The one most forward in change, though killed two days earlier than some of them, had the red patch thickly sprinkled with white feathers, and the back and shoulders much spotted. Do not the oldest birds change latest, and are not the spots on the back and shoulders lost altogether in adult specimens?

About the same date an immature Sclavonian grebe was shot at Horning, and a few ring ouzels, brought in to our bird-preservers, indicated their usual autumnal passage.

About the 18th a fine osprey frequented Hoveton Broad for two or three days, but though his life was attempted more than once, I am happy to say he passed on in safety.

Shorteared owls appear to have been more than usually plentiful this autumn, and consequently many have been shot by sportsmen in the turnip-fields: more than a dozen specimens have been brought to one bird-stuffer in this city.

About the middle of October a young skua, resembling, I am told, for I did not see the bird, an immature Buffon's skua in the Norwich Museum, was obtained in this neighbourhood; and on the 1st of November a fine adult pomarine skua, and on the 10th an immature Richardson's skua, were procured on the coast, and sent to Norwich for preservation. The occurrence of these birds, together with divers, gannets, &c., in unusual numbers this autumn, is fully accounted for by the extraordinary shoals of herrings which have visited our shores, and proved a source of very considerable profit to our fishing population.

On the 28th of October an immature purple heron, a rare visitant to this county, was purchased in our fish-market, having been killed on Ludham Broad: it proved, on dissection, to be a male, a bird of the year, and weighed two pounds three ounces: the stomach contained merely a dry pellet of mouse-hair.

Several fine bitterns have also been shot on the broads during their usual autumnal migration.

November 11. A young male hen harrier and (about the same time) a roughlegged buzzard, immature, from Smallburgh. Mr. F. Hele, in the 'Field' of the 11th of November, states that five of these fine birds were killed at Aldborough, on the Suffolk coast, during the previous fortnight.

About this date three or four great spotted woodpeckers, killed in different parts of the county, and two quails, a young bird and an old female, near Cromer.

November 19. Another immature roughlegged buzzard and two more great spotted woodpeckers, sent into Norwich for preservation; also a fine adult red male sparrowhawk, not often met with at the present day.

November 23. Two adult male shovellers ~~and one~~ female, and a fine bittern, from Ludham Broad.

December 2. A curious pied missel thrush was shot near Norwich, having the head and neck all round a somewhat dirty white, with white feathers in the wing-coverts, scapulars and lower part of the back: the whole of the rest of the plumage lighter than usual.

December 5. Another bittern and an immature great northern diver, sent to Norwich to be stuffed; about the same time also a fine young male peregrine was killed at Hempstead, near Holt, shot in the very act of chasing a wild duck.

December 15. Another redthroated diver, but evidently a young bird: the beak small, no traces whatever of summer plumage, back and shoulders much spotted with white, and the feathers of the head and neck of a particularly downy texture.

December 22. An immature common buzzard, killed at Bradfield, near North Walsham, and at the same date a fine young female peregrine. On the 22nd a young female merlin at Hethersett, and on the 30th or 31st a splendid old male kite was shot at Martham, near Yarmouth. This bird is now extremely rare in Norfolk; indeed, the last obtained, to my knowledge, in this county was trapped near Thetford, in 1852. A large hawk, supposed to be of this species from its forked tail and circling flight, had been seen on the Suffolk coast near Lowestoft, about a week or so before, and is most probably the same now recorded from Martham. The stomach contained only a few dark feathers resembling coot's or scoter's, with a few fragments of the common reed.

I am also told that about the last week in December a sea eagle was shot at Winlaton, near Yarmouth, and sent to London for preservation.

HENRY STEVENSON.

Norwich, January, 1866.

Ornithological Notes from West Sussex.

By W. JEFFERY, jun., Esq.

(Continued from Zool. 9810.)

OCTOBER, 1865.

Lesser Redpole.— First heard on the 10th; tolerably common throughout the month, but not many seen in November.

Black, Lesser and Common Tern.—Two specimens of the black tern shot on the coast in October, one on the 9th, the other on the 18th; a lesser tern on the 11th; and two common terns on the 11th and 31st of October.

Common Scoter.—A male of this species was shot on the 8th in a tide-mill pond at Sidlesham. The gizzard contained small marine univalve shells.

Gray Phalarope.—Obtained a gray phalarope from Sidlesham on the 13th, and on the 14th I saw another in Sidlesham mill-pond, near some ducks; it was nearly dark at the time, but I watched it preening its feathers for several minutes. The next day one was shot near the same place, probably the same bird; and one or two others have been shot in the neighbourhood during the month.

Peewit.—Saw a large flock of peewits high in the air, and travelling in a southerly direction, on the 22nd. This is the first large flock I have seen this autumn.

Purple Sandpiper.—The purple sandpiper appears to have been met with in greater numbers than usual this autumn on the south coast. I have hitherto considered it a rare species in Sussex until this year, having met with two specimens only during the last five or six years, *viz.* November 16, 1861, and October 28, 1862. This year I obtained one on the 31st of October, and in the early part of November five others were killed at Pagham Harbour. Mr. Wells, of Worthing, had seven brought him to be stuffed on the 2nd of November (see 'Field' of November 25th); and Mr. John Dutton, of Eastbourne, has informed me of three having been obtained by him on the 31st of

October; he will probably record the occurrence of these in the 'Zoologist,' with particulars. Mr. J. Gatcombe writes from Plymouth ('Field,' November 25), "During the last two months they have been unusually abundant."

NOVEMBER, 1865.

Fieldfare and Redwing.—Heard a fieldfare on the 2nd; none seen or heard since. Redwings heard a week or two earlier, but have been scarce.

Shorteared Owl.—First seen on the 2nd. Several killed in the early part of the month.

Spotted Crake.—A specimen of the spotted crake was shot in the neighbourhood of Chichester about the 1st.

Siskin.—Saw some on the 11th, feeding on the seeds of the alder. The siskin is much more rare than the lesser redpole.

Redthroated Diver.—Two seen on the 14th; not yet numerous.

Snow Bunting.—A specimen was killed at Selsey about the 12th: this specimen was in the winter plumage, with the crown of the head brown, as are the greater part of the Sussex-killed birds. Mr. Wells, of Worthing, also had three brought him to be stuffed on the 1st of November ('Field' of November 25).

Longeared Owl.—First seen on the 22nd. The longeared owl used to breed in this neighbourhood, and perhaps does occasionally now, but it is more frequently met with at this time of year than in the summer. Possibly there is a migration southwards in the autumn. On the 4th of March, 1860, I found ten in one yew-tree on our downs, and a fortnight later four or five near the same place.

Leach's Petrel.—On or about the 25th a specimen of the forktailed petrel (*Thalassidroma Leachii*) was picked up dead at Sidlesham, and is now in my collection. On the 29th I had another brought me which had been shot near the same place. I have also seen a third, which was shot about the 26th or 27th; and a fourth was picked up dead. Captain Knox has remarked, in his 'Systematic Catalogue of the Birds of Sussex,' that whenever this species has been obtained in Sussex it has been almost invariably after south-westerly storms; and such is the present case,—we have had a continuation of storms from that quarter of late.

Migration of Birds.—"What becomes of these flocks? Where do they—where can they halt? If not migrating, how comes it that these autumnal flights are invariably to the eastward?" Captain Hadfield has suggested (Zool. 9844) that I, being in the "line of flight," may possibly enlighten the readers of the 'Zoologist' with regard to the above queries respecting the migration of swallows, &c. Now, although I may be said to live on the south coast, I have seldom noticed this easterly flight spoken of by Captain Hadfield, yet I have no doubt that it takes place every autumn, but I believe it to be confined to the line of coast or nearly so, and as I live seven or eight miles, in a straight line, from the sea,—and, moreover, in about the widest part of that flat tract of land which lies between the hills and the sea,—it will be perceived that I am not exactly in the line of that easterly flight. Nearly all the flocks of small birds (wagtails, pipits, linnets, &c.), which pass here in the autumn seem to be working their way towards the coast. If Captain Hadfield has the opportunity of referring to a small work entitled 'Ornithological Rambles in Sussex,' by Mr. A. E. Knox, in Letter 7, commencing p. 75, he will find some interesting notes on "The periodical transit of flocks of small birds through the county." At page 81 will be found the following paragraph respecting the goldfinch, but which I think may be applied to many other species, swallows included:—"Goldfinches again become numerous in October, when detached parties, including the young of the year, which have been spread through other portions of the island during the summer, draw towards the sea, and pass eastward in succession, until they find—in some part of Kent, as I imagine—a favourable spot for crossing the Channel." I have not written this as answering Captain Hadfield's queries, but rather to show that I cannot answer them, and I think it will be generally admitted that we are still much in the dark respecting this interesting subject, the migration of birds.

W. JEFFERY, JUN.

Ratham, Chichester, December 7, 1865.

Ornithological Notes from South-East Essex.

By W. VINCENT LEGGE, Esq.

NOVEMBER, 1865.

This part of the Essex coast is of that flat muddy nature which is just suited to the habits of many of the Grallatores. The ground is lower than high-water mark, and consists of pasture and stubble-lands, protected from the sea by embankments, between which and ordinary high-water mark are wastes of clay soil, called "Saltings," immersed at high "springs," and covered with rank herbage. The shore is bounded by an enormous extent of muddy sand, some twenty-five miles in length, and which stretches out to sea for four or five miles at low water. That part of this flat which lies near the shore is of a muddy nature, covered in many places by a green weed. Near Tillingham this is a great resort of hundreds of ducks and geese, and on most parts of it thousands of waders and sea-birds may be seen feeding every day during the winter. While the gulls fish with the receding tide, the waders confine themselves to these "black grounds." The large island of Foulness is backed by a perfect puzzle of smaller islands, embanked and each surrounded by a creek some three or four hundred yards wide at high water, though many of them are nearly dry when the tide has ebbed. These creeks, the bottom of which is mud, form another good feeding-ground.

Among the following notes are some trifling observations on some of the more common sorts of Grallatores frequenting the coast.

Gray Crow.—The first gray crows I observed this winter were on the 28th of October; but further up the coast they were to be seen, I should say, at a much earlier date. They are now pretty plentiful, frequenting grass-lands, called "saltings," between the embankments and the water.

Snow Bunting.—Several examples of the snow bunting have occurred here during the past week. It is rather an unusual occurrence, as the weather has been rather mild, and these birds are generally found here only in the severe weather, in the depth of winter. Three were seen in a stubble-field, consorting with sky larks; one of them was shot and brought to me; it was a male, in winter plumage. Another was killed the day before.

Turnstone.—This handsome bird is not very common, I believe, on these sands. The shore is of a muddy nature, and does not suit their habits. Punctual to their time of arrival, however, small flocks of young birds appeared on this coast during the last week in August and first days of September. They confined themselves to the shingle, and were not very shy. Several specimens were shot, all young birds. They stayed about a week, and then disappeared, moving, most probably, to the south coast. I have not observed any since, but I hope to ascertain during the winter whether many do frequent the extensive sands of this coast.

Sanderling.—Several of these birds frequented the beach at the same time as the turnstones, with which they consorted; one was shot in intermediate plumage, more inclining, however, to that of winter than of summer. They do not seem to be common here.

Ringed Dotterell.—I see small flocks of these birds on the beach, generally at day-break in the morning, or in the evening. They remain on the beach, it appears, most of the night, and feed very early in the morning. I have shot several specimens during the last few weeks, most of which have been females. I first observed their arrival at the end of September. When roused early in the morning, if the tide is in, they get up by twos and threes, as they have been roosting during the night, and after some time, if further disturbed, they pack into a flock, and generally fly away some distance. Morris gives the length of the ringed dotterell as 7½ inches: I have shot one or two 8 inches in length. They are at present enormously fat.

Redshank.—Redshanks are very numerous, and have been so since the beginning of September. There are a good many to be seen in localities near here during the summer months, as they stay to breed. There is one spot in Canvey Island, a marsh, where some few nest, and I have no doubt some do so in one place or the other every year. Their nests are very difficult to find: on approaching them the old birds become very noisy, flying round and round, screaming incessantly; on alighting they stand still at first, and have a habit of jerking back their heads. They entirely frequent the salt-water creeks surrounding the islands at Foulness, feeding on the muddy banks of these, when left bare by the ebbing tide. During high water they seem to be ever on the wing, and, assembling in little flocks, sweep over the surface of the water and over the low lands in a manner which reminds one of the little flocks of swifts which one sees sweeping through a town. They roost with us on the saltings, and become very noisy and unsettled before retiring to rest.

Dunlin.—These sandpipers arrived here at the end of August. I was away at the beginning of September, but on my return I found them already pretty numerous. They have been increasing steadily since then, and have now attained to the vast numbers which frequent the coast always in the winter. They go much in company with small flocks of dotterells. Specimens I shot on the 7th of October were in intermediate plumage; some killed a fortnight later had quite assumed their winter dress. They feed mostly on the mud flats of the coast, which are bare at low water. On approaching a flock of these birds, single individuals first take wing, and then the whole mass rise up together. They roost, like the dotterells, on the beach, settling down above high-water mark, and are very shy at night, getting up at the least sound of footsteps. I have found them on the flats when out before daybreak in the morning, so it would appear that they feed to some extent during the night. At high water they pack in vast flocks, sometimes mounting high in the air, driving about like a small cloud with the wind; at other times sweeping over the fields in their impetuous course. They are down upon you in an instant with a rushing noise, displaying perhaps the white of their under surface, and then changing in the twinkling of an eye into a dark mass, as they wheel off in some other direction. The provincial name for the dunlin in these parts is "ox-bird."

Heron.—The nearest heronries to this part of Essex are those of Wanstead Park and Chilham Castle, in Kent, so that it may be presumed that the numbers we have here in the marshes come from these two colonies. While out shooting some time ago I put up twenty-five at once. This was at high water, when they are to be found very often together on the saltings. They are fond of the salt-water creeks, which are so extensively patronized by the redshanks, and especially of those devoted to oyster culture, where they make, I expect, some capital meals.

Curlew.—Great numbers of curlews feed on the flats, in company with godwits, dunlins and sea gulls. They generally are the first to alight on those parts just laid bare by the falling tide. I have never seen them so plentiful anywhere in England as they are here; but notwithstanding their great numbers very few are shot. They are so excessively wary, and the coast is so open, that it is next to impossible to get near them.

Martin.—Both the swallow and the martin are very plentiful here in summer, especially, however, the latter, seven or eight of whose nests I have seen together on one house front. The swallow breeds near Shoebury to a great extent, under the bridges over the water-courses in the marshes. The last swallow I observed was on the 5th of November, but the martins left sooner, on the 30th of October. I saw, however, to my surprise, a couple of sand martins on the 18th of November.

W. VINCENT LEGGE.

South Shoebury, November 20, 1865.

Ornithological Notes from the County Dublin.

By H. BLAKE-KNOX, Esq.

OCTOBER AND NOVEMBER, 1865.

Redthroated Diver.—The redthroated diver appeared here early in October in fair numbers. A young bird, shot in the early part of the month, was similar to young birds shot throughout the winters of former years; the speckles on the throat are, however, deeper and more plentiful than in December or January. A very old adult, shot on the 20th of October, was in full winter plumage. The snow-white cheeks and throat, at this season, tells the adult from the young of the year, whilst either flying or swimming; and the dingy colour of the back, and the dirty white of the speckles of the latter, instantly distinguish it from the bird in second winter. On the same day I shot a bird second winter plumage: at this stage the young is very similar to the adult, but the collar of faint speckles on the neck distinguishes it from the old bird. For the plumage of the young in first winter and spring and of the adult in autumn and winter, see my notes in the 'Zoologist' (Zool. 9611). These birds fly much more willingly than the great northern diver, and by this means I lost shots at some adults in the autumn moult, the throats being as in summer, but thickly speckled with white: this was in the beginning of October. I find as yet that no correspondent has answered my query, Did they ever see a redthroated diver, in the flesh, in the summer adult state of plumage, in the months of December or January? No practical marine ornithologist would put much faith in Temminck: I cannot, for I have read too much "bosh" in his work to come to any conclusion but that he did not always write from experience.

Great Northern Diver.—I have to thank Mr. W. Jeffery, jun. (Zool. 9716), for answers to my query, on the summer and winter plumages of the Colymbi (Zool. 9611). The birds mentioned by him are in mixed plumage and *females*, and most probably very old birds, either backward in the moult or throwing out "false" feathers, as many birds will do; for instance, I knew an old duck (female) to throw out the distinctive feathers of the mallard. If the reader refers to my note on the great northern diver (Zool. 9610), I have written, "As late as January I have shot birds with summer feathers still in their plumage, and appearing *new;* these were *old females.*" But these two instances of Mr. Jeffery's, so late in the winter, will not be often backed up by similar examples. Last winter I killed (with a good object) some dozens of these birds, and only one had a summer feather in the back or neck, though many were adults, and that bird had ten speckled feathers in the left scapular. The ovaries had been well taxed. This bird is not plentiful this year, the redthroated diver having taken its place in numbers, though it is generally more abundant than Colymbus septentrionalis. On the 12th of October I hunted four of these birds, three adults moulting, but with very few white feathers in the throat, which was black, as in summer, with the exception of the collars. Though I got in range several times, the rain damped my ammunition, for it was spitting wet, and a miss or a hang-fire "sold" me. So near was I to one I could count his speckles, if he had kept up long enough, but I was drawing a damp charge. The fourth was immature. Fellow naturalists, if your gun is damp, draw your shot and the powder-wad, and drop a burning vesuvian down the barrel; it will instantly burn your powder, and save valuable time.

Purple Sandpiper.—Very abundant in November.

Snow Bunting.—Saw two, on the 27th of November, on the West Pier, Kingstown. Since then numbers appeared on the sea-rocks, Dalkey.

Greenshank.—Saw great numbers on the North Strand, Dublin Bay. A boorish fellow shot one before me, and would not part with it, preferring to eat it than oblige me or take money for it. They are wary, and very hard to shoot. My best grounds are closed against me, through the lunatics calling themselves "Fenians:" the Pigeon House, Fort Strand, is closed against intrusion.

Shorteared Owl.—By no means scarce in October. Out of three shot on Dalkey Island I got one, a young female. Two, a male and young female, I also got, shot more inland. They are never common in this county.

H. BLAKE-KNOX.

Ulverton Place, Dalkey, December, 1866.

Destruction of Birds by Telegraph-wires.—I have observed several instances of the destruction of birds by telegraph-wires within the last two or three years. A specimen of the kingfisher was picked up a short time since by a man on the railway line at Lakenham. My friend Mr. Arthur Taylor picked up specimens of the cuckoo and wryneck, laying both together on the embankment of the railway near Somerleyton

Station, in Suffolk, about a month since. I remember finding examples of the blackbird and redwing by the roadside, in the neighbourhood of Wymondham, two years ago. All the individuals above named were killed in precisely the same manner, *viz.*, across the throat, in one or two instances the windpipe being nearly severed; I had a very fine example of the woodcock forwarded to me during 1863 by a friend from Royston, in Hertfordshire: this bird had received a large gash across its breast: it must have struck the wires with great force, as I found they had cut half through the poor victim's body.—*T. E. Gunn; West Pottergate, Norwich.*

Birds at Sea.—On the 5th of October, 1865, during the voyage of the steam-ship "Nova Scotia" from Liverpool to Quebec, Canada, when in lat. 26° 28′ N., long. 23° 24′ W., over 500 miles from the coast of Ireland, and 700 from Liverpool, the following birds were captured on the deck and rigging of the steamer:—golden plover (*Charadrius virginianus*), two specimens; virginian rail (*Rallus virginianus*), one specimen. The former is common to both continents, and the latter to the Eastern and Middle States of America. The birds were brought to Quebec by Mr. W. F. Bowes, the officer in charge of the mails. Nine other species came on board the steamer, a few of which Mr. Bowes informed me belonged to the Falconidæ. It is to be regretted these were not brought to this city for identification. The capture of American birds so close to Europe is very interesting to naturalists who study the geographical range of species belonging to both continents.—*William Cooper; Quebec, Canada, October* 24, 1865.

Ornithological Scraps from Wexford.—On the New Bridge at Wexford I had the pleasure of seeing two white wagtails catching flies among the timber close to the water's edge: they would frequently perch on the top rail, quite close to me, with their mouths full of flies, evidently showing that they had young in the neighbourhood: late in the day I saw another pair several miles from where I saw the first. Saw a cirl bunting, a male: very rare in Ireland. I noticed a habit of the heron quite new to me: some were lying in the water, the head and neck only emerging: there was about a foot of water on the ooze. Saw three wild swans together far out towards the harbour; species unknown. There was a very fair sprinkling of blackheaded gulls on the ooze; a few curlews, whose whistle called back old recollections of wintry nights spent wild-fowl shooting, and made me wish for foggy November again; but, alas! it is only June, and the sun as hot as in the tropics, and not even enough ice in the little town to cool one's beer. Hooded crows very abundant. A few common gulls (*Larus canus*) and herring gulls (*L. argentatus*), young birds, were fishing in the river. A few stray cormorants passed overhead. In a lovely little dell upon the coast, I came upon a great blackbacked gull and a magpie, feeding side by side on a dreadfully putrescent horse. To do the hooded crows justice, not one was near it, but perhaps they were gorged.—*Harry Blake-Knox; Ulverton Place, Dalkey, June*, 1865.

Ornithological Notes from Beverley.—I beg to send you two or three more rare captures, which, added to my last communication (Zool. S.S. 27), will make up a complete list for the year 1865.—

Merlin. On the 6th of November Mr. Falgate, gamekeeper, of Eske, near Beverley, shot a female merlin, which I got, in the flesh, for my own collection. Mr. Falgate thought it was a sparrowhawk, and he tells me that he shot another exactly similar about the same time, which he threw away. The merlin is a rare hawk in this neighbourhood. I have four specimens, which are the only examples I had previously seen, shot near to Bevetley. Mr. Falgate's specimen was shot within three miles of Beverley.

Stormy Petrel. On the 15th of November Mr. D. Brown, of Filey, sent me a beautiful male specimen of this species, in the flesh. It had been knocked down with a stick by a man, near to the town of Filey.

Great Spotted Woodpecker. An immature male of this species was shot by William Ward, gamekeeper, at Cliff, near Beverley, about the same date as the petrel, and was sent, in the flesh, to Mr. R. Richardson, for preservation, on the 18th of November, on which day I saw it.

Turtle Dove. On the 18th of November, an immature male of the turtle dove was also shot at Cliff, by William Ward, and I saw it, in the flesh, at Mr. R. Richardson's.

Quail. A splendid mature male of this little game bird was sent to me, in the flesh, by Mr. Kemp, gamekeeper, of Skerne, near Driffield, on the 1st of December: he had shot it near to Skerne on the 30th of November.—*W. W. Boulton; Beverley, December* 9, 1865.

Peregrine Falcon in Suffolk.—A fine immature female specimen of Falco peregrinus was shot at Geldestone, near Beccles, in Suffolk, on the 23rd of December last. It weighed 2½ lbs., and measured 20 inches in length from beak to tail, both included; 3 feet 9 inches across its extended wings to the tip of each, and 15 inches in the wing from carpal joint to tip.—*T. E. Gunn; West Pottergate, Norwich, January* 2, 1866.

The Lesser Kestrel at Cambridge.—In accordance with my suggestion (Zool. 9846) Mr. Newton has examined the bird there mentioned: it turns out to be the common kestrel (*Falco Tinnunculus*). This result must have been anticipated.—*Edward Newman.*

Great Gray Shrike at Pevensey.—On Saturday last, the 30th of December, Mr. Adams, fishmonger, of this place, sent me for inspection a fine male great gray shrike, in the flesh, that had been shot at Pevensey a day or two before. It was a beautiful specimen, and, to show that people know what to ask for rare birds here, the price he put on it was ten shillings. I did not buy it, having a very beautiful one in my collection.—*John Dutton; Eastbourne, January* 2, 1866.

Martins at Christmas.—Martins remained with us until after Christmas; three were seen at Millendreat on the 18th of December, two in Looe on Christmas Day, and I saw one on the 26th of December, 1865.—*Stephen Clogg; East Looe, Liskeard, January* 9, 1866.

Hoopoe at Royston: White Sparrow, &c.—A fine male specimen of the hoopoe (*Upupa epops*) was shot in this neighbourhood on the 18th of April, 1865, and placed under my care for preservation. On the 23rd of July a variety of the house sparrow (*Passer domesticus*), being a pure white. On the 29th of November a common starling (*Sturnus vulgaris*), being a clear white on the tail and all lower parts of the body, the rest part gray. A female specimen of the great gray shrike (*Lanius excubitor*) was killed on the 5th of December, which I also had the pleasure of preserving.—*William Norman; Royston, Herts, January* 16, 1866.

The Purple Sandpiper.—A correspondent in the 'Field' of last week writes on having obtained a purple sandpiper at Eastbourne. It may not be generally known among ornithologists that small parties of the purple sandpiper visit the rocky coasts of Devon and Cornwall every year, arriving at the latter end of October, and remaining until the spring; but during the last two months they have been unusually abundant. A few weeks since, on visiting the Plymouth Breakwater with a friend, we fell in with several flocks, from which we obtained many specimens. When feeding on the rocks during stormy weather, the purple sandpiper has a habit of crouching on the approach of a large wave, holding firmly on to the rock, and allowing the spray to dash completely over it; on the receding of the wave it rises and runs about nimbly, feeding until the approach of the next.—*John Gatcombe; Plymouth, in the 'Field' of January* 13, 1866.

Large Snipe.—A specimen of the large snipe, before mentioned in the 'Zoologist,' by Mr. Rodd (Zool. 4704), and Mr. Gatcombe (Zool. 7938), killed on Dartmoor on the 13th of December, was brought me the following day. It seemed rather smaller than the individuals previously described, weighing only about 5½ ounces. The markings were very distinct and bright, but did not greatly differ from those of Scolopax gallinago. The body was remarkably long. Mr. Gould is inclined to consider these large snipes as belonging to a distinct species, and proposes the name S. russata for it in case this is ascertained to be so. Captain Morshead informs me he has shot a bird very similar on the Woolwich Marshes.—*J. Brooking-Rowe; December* 22, 1865.

Colossal Bird.—A gentleman now in Nelson reports to have discovered, in some beds of limestone on the other side of the bay, fossil remains of a gigantic bird, estimated to have stood about twenty-five feet high. The fossils are in a most perfect state, and have been thus described to us:—The most complete specimen is that of a head, with the absence of a lower jaw, the extreme dimensions of it being 3 feet 4 inches by 1 foot 10 inches; the orbit, or what is seen of the eye, measures 4½ inches by 2½ inches. The next specimen is that of a body without the neck: in this specimen the sternum shows itself highly developed, but rather flat; the tail is long, the body very bulky. The wings, which are well defined, and are large and close to the body, are separated by a large saddle or cradle, very graceful in form. The feathers covering the body are of large size, and lying close. The body lies on its side, the bulky part facing the lower ground or valley. The bad weather prevented further research. Part of the abdomen, which seemed to be very highly developed, and the legs, if they were to be found, were still covered by about two or three feet of soil and entangled in the roots of shrubs. Several detached pieces of fossils of similar kind were found not far from the same spot. From the description given of these remains they do not appear to have belonged to a moa, but to some other gigantic bird of which we have no record in New Zealand. The gentleman who made the discovery has waited upon the superintendent, and offers to disclose the remains to the Government.—*From the 'Nelson Examiner,' October* 12, 1865. [Communicated by Mr. F. Tuckett.]

Dodo Bones in the Island of Mauritius.—The 'Mauritius Commercial Gazette' contains the following particulars of the discovery of bones of the dodo in the Island of Mauritius:—"Mr. Clark, during a very long residence here, had made many inquiries and researches in order to learn something more about the dodo than was already known generally, or to find some remnants of it, but without success. On Dr. Ayres's last visit to Mahebourg he conversed with Mr. Clark about the dodo, and asked whether by digging round the ruins of the old Dutch settlement there might not be a chance of meeting with some remains? Mr. Clark did not see any probability of success in that quarter, as these dwellings were situated on a spot where nothing would be likely to bury itself in the earth, of which the surface is every year swept completely by the water which flows from the mountains; but he said he thought a likely spot to contain such remains would be in alluvial deposits. A few days after Mr. Clark remarked that some marshes in the vicinity of Mahebourg were likely to furnish these coveted remains; but having neither time nor means at his disposal, he did not undertake the search, though bearing in mind his impression on the subject. The commencement of the railway works, with their numerous cuttings at various heights, gave hopes to Mr. Clark that some remains might be discovered; but his inquiries from those employed there on this subject failed to elicit any information. About two months ago, Mr. Gaston de Bissy caused to be dug from a marsh on his property, known as 'La Mare aux Songes,' the alluvium contained in it, to use as manure. After digging two or three feet, the men came in contact with bones of tortoises and deer, the former in vast numbers. As soon as Mr. Clark heard of this, he went to Mr. de Bissy and stated to him what had long been his opinion as to the position in which dodo's bones might be found, requesting him to give orders to the diggers to lay by carefully whatever bones they might turn up. Mr. de Bissy was much pleased with the chance of making so interesting a discovery, and at once ordered that Mr. Clark's request should be fulfilled. Mr. Clark visited the estate many times, but without obtaining any satisfactory intelligence. He at length engaged two men to enter the dark-coloured water, about three feet deep, and feel in the soft mud at the bottom with their feet. In a short time he had the inexpressible satisfaction of finding a broken tarsus, an entire tibia and part of another. He at once commenced operations in earnest, and has been fortunate enough to find every important bone of that remarkable bird, including cranium, upper and lower mandibles of bill, cervical and dorsal vertebræ, ribs, coracoid bones, scapulæ and clavicle, sternum, humerus, ulna, pelvis, femur, tibia and tarsometatarsus, so that an experienced person can well build a dodo from these remains, the toes being the only part wanting. The skull of this bird was of amazing thickness, and the cerebral cavity very small. The beak of great strength and solidity, as are the condyles of the lower mandible. Some of the cervical vertebræ are more than two inches in diameter, and of very elaborate structure. The sternum, of which the form shows a strong resemblance to that of the pigeon tribe, in some specimens is more than five inches wide and seven long. The keel is a quarter of an inch thick, and about an inch deep in the deepest part, which is at the centre; and the sternum is there three-quarters of an inch in thickness, but it thins off to a sharp edge at the margin. The humerus is less than four inches in length, and the shaft only about three-eighths of an inch in diameter, and the ulna under three inches, and less than a quarter of an inch in thickness. Some femurs are nearly seven inches long and more than an inch in diameter, and tibiæ nine inches long, and the upper condyles two inches in diameter. The tarsometatarsi are of very solid bone, and have been found in greater numbers than any others: they are about the length of those of a good-sized turkey, but more than twice the thickness. Only two or three craniums have been found, with a few fragments. The paucity of these remains as compared with other parts of the frame may very possibly arise from the numerous apertures in the head, into which roots insinuated themselves, thus disintegrating the structure. The upper mandible of the bill has suffered from the same cause, and only two tolerably perfect specimens of that organ have been obtained, while the under mandibles are numerous; but only three or four have been found in which both rami remain attached. The tip of one upper mandible is two inches in depth and an inch in thickness. The vertebræ are very strong, and show that the spinal cord was fully double the size of that of the turkey. In only one instance has the presence of a fragment of the furcula been found attached to the coracoid bone, but several have the scapula united to them. These bones present a great diversity of colours. Those which were found near the springs in the marsh are nearly of their original hue. Some found alongside of a large bois-de-natte tree were nearly of the colour of that wood, and many others are nearly as black as ebony. Mr. Clark deposited the first specimens of dodo's bones he obtained in the museum at the Royal College, as well as those of the flamingo, the existence of which in Mauritius was remembered by the parents of persons now living. He has also sent a complete set of dodo's bones to Professor Owen, for the British Museum."

The Great Northern Diver: Summer and Winter Plumage.—This fine species has appeared on our coasts, including the Scilly Islands, in larger numbers than usual, and no less than five have been captured during the last fortnight, in their full spotted plumage, with slight indications of the neck-bands disappearing, and of the dorsal feathers having cinereous feathers cropping out: all these birds appeared more or less emaciated, and to all appearances the victims of some disorder which checked their moulting, and thus caused their capture. I have very little doubt that there is a tendency in all the Colymbidæ to assume the *imber* plumage in the winter, but the question still remains whether or not at an advanced age the adult summer plumage is retained *perennially.—Edward Hearle Rodd; Penzance, December* 15, 1865.

Change of Plumage in Great Northern Diver.—A great northern diver (*Colymbus glacialis*) was shot here on Saturday, the 11th of November, with the plumage changing from summer to winter. The top of the head and back of the neck have lost the beautiful green shade of summer, being now of a deep slate; the front of the neck is a mixture of black and white; the crescent under the chin has assumed a perfect white; the patch on either side of the neck is much less than in summer; the breast is a pure white. On the back there are three kinds of feathers—those of summer, black with white spots; some of the deep cinereous hue of winter; whilst others are in a state of change, the black fading into slate, with the white spots almost obliterated. On making a minute examination of the bird, I could not find a single feather in a state showing that moult was taking place, yet, as I have described above, the winter plumage was superseding the summer, as it would appear, from change of colour, not by moult: there is further evidence that that is the case from the fact that on pulling out one of the feathers, which is in a state of change, there was evidently secretion going on at the base of the quill, which was filled with a slightly bloody-coloured fluid for about one-third of its length: from this I conclude the old feather becomes renewed as well as changed in colour. I send you feathers in the three different stages, that you may judge for yourself as to their state, and I think you will still be able to find traces of renewed secretion in each of the feathers, although they are now very much dried. This is the only specimen that I have ever had an opportunity of closely examining in the autumnal change, so it would be premature for me to say, without further proof, that the autumnal change is merely that of colour, yet I think the evidence is such in this case that the fact will prove to be so on future investigation. There is not the least doubt, in my opinion, but that all the Colymbi have distinct summer and winter plumage. I had an opportunity, on Sunday last, of examining, through a powerful glass, at about three hundred yards distance, eight specimens; all, with one exception, were in perfect winter plumage,—the exceptional one had a few summer feathers remaining on the back, with some black feathers mixed with the white on the lower part of the neck. These eight birds were collected together at the mouth of the harbour. This is not an unusual occurrence after a severe south-west gale, from which we are completely sheltered, and I well recollect the circumstance mentioned in Morris's 'British Birds,' in which upwards of thirty were collected at one time, after a south-west gale of many days' duration, and on examining them with the late Mr. Jackson, of this place, we could not detect one that was not in the pure winter plumage. There is not a winter passes without many specimens of the great northern diver being found here.—*Stephen Clogg; East Looe, Liskeard.*

Great Crested Grebe near Birmingham.—On the 15th of November a great crested grebe (*Podiceps cristatus*) was shot on one of the pools in Sutton Park. The bird is now in the hands of Mr. Franklin, taxidermist, of this town.—*T. Jephcott, jun.; Balsall Heath, Birmingham, November* 21, 1865.

Nesting of the Little Tern.—Having last summer found reason for suspecting this pretty sea-swallow (said by Mr. Adams to be only a rare visitant to our western shores) of breeding at the northern entrance of the Menai Straits, I was glad to seize an opportunity of visiting the locality early last June, and of verifying my conjecture. A number of nests were found, seldom if ever in the accidental hollows in the pebbly sand, as described by Mr. Yarrell, and such as the common tern mostly uses, but generally *scooped out*, as stated in 'Birdsnesting,'—in this respect precisely resembling neighbouring nests of the ringed dotterell. *Secondly*, the complement of the number of eggs, in repeated instances, was found to be four, whilst Messrs. Yarrell, Mëyer, Doubleday and Adams, give no more than two—three! The fact serves to confirm my supposition that the birds have long bred here undisturbed, the very boys of the nearest houses disclaiming all knowledge of sea-birds' eggs being procurable in the neighbourhood. *Thirdly*, Mr. Yarrell asserts all the eggs of this species to be *laid before the end of May;* on the contrary, I have simply to state that several nests were found containing perfectly fresh eggs, and *one with first egg, newly laid*, so lately as the 4th of June, and in a season, it must be remembered, of unusually early development! The eggs, as generally described, vary but little in colour or markings; in both, so closely resembling the surrounding sand and small shingle that to prove successful a very close search indeed must be instituted for them. The spot in question is a sand-bank nearly covered by shingle and wholly unprotected by rock. It would seem never to be completely submerged, and is a spur or "spit" of the extensive "Lavan Sands," abutting upon the main.—*H. Ecroyd Smith; Aldbro' House, Egremont, Birkenhead.*

The Great Auk on Lundy Island.—My friend the Rev. H. G. Heaven, of Lundy Island, has given me permission to forward you the following extracts from a letter he wrote me relative to the last appearance of the great auk on that island:—

"Lundy Island, September 6, 1865.

"With regard to your question whether we have ever *seen* the great auk, I must answer in the negative. There is strong presumptive evidence, however, that the great auk has been seen *alive* on the island within the last thirty years; at least I cannot imagine what other bird it was. The facts are as follows, and I must leave it to more experienced ornithologists to draw the conclusion:—In the ye[illegible] 1838 or 1839, as nearly as I can recollect,—not, however, more recently,—one of our men in the egging season brought us an enormous egg, which we took for an abnormal specimen of the guillemot's egg, or, as they are locally named, the 'picked-billed murr.' This, however, the man strenuously denied, saying it was the egg of the 'king and queen murr,' and that it was very rare to get them, as there were only two or three 'king and queen murrs' ever on the island. On being further questioned he said they were not like the 'picked-bills,' but like the 'razorbilled murrs' (*i.e.* the razorbilled auk); that they were much larger than either of them; and he did not think they could fly, as he never saw them on the wing nor high up the cliffs like the other birds, and that they, as he expressed it, 'scuttled' into the water, tumbling among the boulders, the egg being only a little way above high-water. He thought they had deserted the island, as he had not seen them or an egg for (I believe) fifteen years till the one he brought to us; but that they (*i.e.* the people of the island) sometimes saw nothing of them for four or five years, but he accounted for this by supposing the birds had fixed on a spot, inaccessible to the eggers from the land, for breeding purposes. The shell of the egg we kept for some years, but unfortunately it at last got broken. It was precisely like the guillemot's egg in shape, nearly, if not quite, twice the size, with white ground and black and brown spots and blotches. We have never, however, met with bird or egg since, but as the island has become since that time constantly and yearly more frequented and populous, it may have permanently deserted the place. The man has been dead some years now, being then past middle age, and I think he had been an inhabitant of the island some twenty-five or thirty years. He spoke of the birds in such a way that one felt convinced of their existence, and that he himself had seen them, but he evidently knew no other name for them than 'king and queen murrs,' which he said the islanders called them 'because they were so big, and stood up so bold-like.' In colour they were also like the 'razorbilled murr.' Nobody, he said, had ever succeeded in catching or destroying a bird, as far as he knew, because they were so close to the water, and scuttled into it so fast. The existence of these birds had been traditional on the island when he came to it, and even the oldest agreed there were never more than two or three couple. He himself never knew of more than one couple at a time."

As anything bearing upon the history of a bird now most probably extinct is of interest I thought you would like to have these notes for insertion in the 'Zoologist.'—*Murray A. Mathew; Weston-super-Mare, December* 4, 1865.

Little Auk at Liskeard.—A little auk was brought to me on Wednesday last, shot the day before: a bird of last year, not in very good plumage.—*Stephen Clogg; East Looe, Liskeard, January* 9, 1866.

Forktailed Petrel near Salisbury.—Last month I had a specimen of the forktailed or Leach's petrel (*Thalassidroma Leachii*) given to me: it was found on the 25th of November, at East Grinstead, a village about six miles from Salisbury, supposed to have flown against the electric telegraph wires, as it was discovered near the railway embankment with its wing broken; the bird was in excellent condition and in good plumage. The above is the second petrel of the same species that I have obtained in this neighbourhood; the other was picked up on the 27th of October, 1859, by a railway porter, about two miles from this city, on the Great Western Railway, having met with a similar fate.—*Henry Blackmore; Salisbury, January* 6, 1866.

Forktailed Petrel at Penzance.—During the severe gale which raged here on Saturday, the 25th of November, a forktailed petrel was found in an exhausted state near this place, and it very soon died after being picked up. A common storm petrel was also found under similar circumstances. The forktailed petrel has occurred very sparingly here, and I have not seen a specimen for many years. Two other specimens of Thalassidroma Leachii were picked up, one on the banks of the Tamar, near Launceston, and the other in the heart of Bodmin Moors, from fifteen to twenty miles inland.—*Edward Hearle Rodd; Penzance.*

Forktailed Petrel at Plymouth.—A specimen of the forktailed petrel was captured alive, in a court behind a house in Plymouth, on the 3rd of December: it died in the course of the day. Another specimen was taken on the Tamar.—*J. Brooking-Rowe; 9, Princess Square, Plymouth.*

Nest within Nest.—One of the most interesting instances of abnormal nidification which I met with during last summer was the case of a blue titmouse (*Parus cæruleus*), which had formed its nest and laid eight eggs at the bottom of a blackbird's nest, into which the titmouse had inserted its own nest, as a little cup fits into a larger one. This was taken on the 5th of June, 1865, at Plompton, Sussex, and makes a very pretty object in its glass box. I have also known the same bird to build on the open bough of a spruce fir, like a chaffinch. In both instances, no doubt, the aberrant character of these structures arose from the absence of holes and decayed trees in the vicinity. I also saw a swallow's nest (*Hirundo rustica*) on a hedger's glove at the end of a beam.—*George Dawson Rowley; 5, Peel Terrace, Brighton, January* 18, 1866.

Turtle in Cornwall.—On the 3rd of January, as some children were playing on the beach at Hemmock, one mile to the westward of the Dodman Head, they saw a turtle endeavouring to make its way up a small stream of water which flows across the beach into the sea: having fetched a gaff from their cottage, they hooked it out of the stream and secured it. I saw it on the following day, and its weight was 23 lbs. It was taken to Megavissey, and bought by a fisherman there to send to the London market. If, therefore, its shell is wanted by any collector, the purchaser in town might probably be traced. I believe the turtle is numbered amongst our British reptiles; but whether this specimen had crossed the Atlantic, being driven here by the fierce south and south-westerly winds we have had this autumn, or whether it was swept from the deck of some homeward-bound ship, must be mere matter of conjecture.—*William Willimott; The Rectory, St. Michael Caerhays, St. Austell, in the 'Field' Newspaper.*

On the Occurrence of the Spinous Shark in Mount's Bay, Cornwall.

By Thomas Cornish, Esq.

A specimen of the spinous shark was captured about a mile off shore at the back of Mousehole Island, in Mount's Bay, on the night of Friday, the 15th of December, 1865. It was taken by some men who were fishing for conger, and on conger bait, so that it took its bait on the ground. The bottom where it was caught was shingly, and the water about ten to twelve fathoms deep. The place is in a strong tideway, and is a very favourite fishing-ground for small fish.

As the fish is a rare one in British seas, I trouble you with a somewhat detailed description.

Its dimensions were as follows:—

Length over all	6 feet	2 inches.
„ from eye to origin (or insertion) of caudal fin .	4 „	4½ „
Greatest girth, immediately before origin of pectoral fins	2 „	2½ „
Girth, immediately behind the after ends of the pectorals laid flat and backwards	2 „	1 „
Girth, immediately before origin of first dorsal .	1 „	10½ „
Greatest depth (about the middle of the pectoral fins laid flat and backwards)	0 „	6½ „
Greatest breadth (at same place) . . .	1 „	0 „
Gape, with loose fleshy substances on either side of it in the angles of the jaws	0 „	9 „

The teeth were peculiar and bicuspidate, as described by Yarrell (ed. 1836, Suppl. to vol. ii. p. 59), large and placed in one single row on the extreme outside edge of each jaw. There was no tongue, but close inside the teeth of the lower jaw there was a semidetached membrane, under which on each side of the jaw, but not in front, there were teeth partly developed. There were similar teeth on each side, but again not in front, of the upper jaw, but there was not, or I failed to detect, any similar membrane. The upper jaw was considerably projectile: when I saw the fish, which was about ten hours after its capture, it was capable of easy protrusion to the extent of about two inches. The lower jaw was fixed. The eyes were large, and round rather than oblong, and the pupil was perpendicularly oblong and of a peculiar mother-of-pearl light green hue when the fish was brought to me.

The lateral line was very conspicuous, of a light colour, running parallel to the back throughout the entire length of the fish down to the very extremity of the upper lobe of the caudal fin. It was slightly raised and rough, but free from spines.

The position and shape of the fins and tail were as shown in Yarrell's Supplement (see above), p. 56, and in Couch's 'British Fishes,' vol. i. p. 54, and were, especially as to the anal and caudal fins, very unlike Yarrell's figure, Supplement, p. 54. Its shape, however, as will be seen from the measurements above given, was much more like that of the figure in Yarrell's Supplement, p. 54. It had in no way the appearance of a floating fish. It was a long squat creature, reminding one of the monk, the angel fish and other bottom-feeders. Its fins, which were all well forward or well aft, very stout and thick, and very small in proportion to its length, seemed to imply a fish with powers of creeping along the bottom and of turning rapidly, by the aid of its powerful dorsal, anal and caudal fins, rather than a fish which could swim rapidly. Its spiracles on both sides were unfortunately destroyed by the gaff in effecting its capture: I could only, therefore, note that they were in the place proper for them in this description of shark.

In colour the fish was, above, of a dull leaden hue, the ridge of the back, the head and fins being darkest, and the extreme top of the snout rounding off flesh-coloured; and below, of a dirty white. I saw on it no other colours than these.

Its skin was perfectly free from scales, and was (or at least rapidly after death became—I cannot certainly affirm which) slimy. It was covered all over (except on the very belly itself) with very numerous small spines, precisely of the sort described by Yarrell, none exceeding the third of an inch in length, and all very sharp, the larger ones curved and the smaller ones straight, or not yet developed into a curve perhaps: they were distributed without any apparent arrangement whatever, and became fewer and smaller over the head until those on the snout were rudimentary merely: they were present on the fins, but were small there. A very large number of small ones were congregated on a curious callous, mobile and based in the skin, about the size of a crown piece, which existed about half-way between the pectorals and first dorsal and half-way between the ridge of the back and the lateral line, but as I found nothing corresponding to this on the other side I suppose it to be merely the callous of an old wound. The spines were all based in the skin itself, and were exceedingly mobile. The whole skin, and indeed the whole fish, was, to the touch, of the loosest, flabbiest nature, and portions of the fish which were raised and dropped always lay as they fell, just as is the case with the monk and angler. It reminded me, as I have said, strongly of these ground-feeders, and had anything but the tight tubby appearance given to it in recent descriptions. It was a long, low-lying, flabby fish.

Its snout was broad, flat and rounded, and, so to speak, overhung its mouth, which, when closed, was, owing to the projectile character of the upper jaw, less overhung by the upper jaw than is usual in sharks.

There were some three or four round dark spots on the head and near the ridge of the back in various parts of the fish, but I found no similar spots on the corresponding parts, and incline to think them accidental: they were mostly about the size of a crown-piece. I found them first on my second inspection of the fish.

The fish was opened in my presence on Tuesday, the 19th of December. We found in it two very large lobes of milt, apparently almost ready to be shed. Its liver was very soft, and very colourless; in fact, it was not a healthy liver at all, unless it had been affected by the period during which the fish had been dead (but it did not stink). The stomach was small, and communicated with the anal aperture by one long gut. In the stomach we found the head of a gray gurnard, cut off just across the nape and down the line of the operculum, so clean that we fitted it with the greatest ease to the shoulders of the same fish, which we also found undigested: these two bits of fish had undergone so little digestive action that I suppose they may have been the bait with which the fish was taken. There was also in the stomach a small bit of sea-weed (common oreweed, and showing no sign of digestive action on it whatever), and some digested food of a dark brown colour.

I wish it to be understood that I am merely supplementing the descriptions of this rare fish given by Yarrell and Couch. My specimen differs evidently very much from the figures given by them, but it also agrees so well with their descriptions that I think it must be the same fish. Anyhow, if its skin turns out tough enough, and not too gelatinous, I hope to have it shortly stuffed and properly set up in our Museum here.

It is to be observed that we have lately had here a long succession of southerly and south-westerly gales and wind.

THOMAS CORNISH.

Penzance, December 20, 1865.

Is it Spider or Mouse?—A very similar occurrence to that related by Mr. Birchall, in the last number of the 'Zoologist' (S. S. 8), in his note on the field mouse, came under my notice some time since, the only difference being that there was no mouse connected with it. On going into a small house in my garden, which was used for the purpose of keeping garden tools, I was surprised to find the floor strewn with the wings of various butterflies and moths; on seeking for the cause, I found, as Mr. Birchall did, a large spider's web, to which very many wings were hanging: the greatest accumulation of wings was under the web; many were hanging on the wall below, whilst there was not one to be found on any other part of the walls. Being puzzled to find a reason for such an accumulation of wings I set to work to find a solution, when, after a short time, I came to the same conclusion as Mr. Birchall did at first; but, unlike him, I can see no good grounds for changing my opinion, for on closely examining the wings I found them cut off close to the body, in such a manner as to leave no doubt in my mind that the operation must have been done by some very small mouth, much smaller than that of a mouse, whilst I think the mouse would have caused much more damage to the wings than the real operator did. Then arose the question, Why? I think, plainly, because the spider, finding he could not drag the flies into his den with their wings attached without doing much damage to his web, proceeded to cut off the wings; then, throwing them out of the web, he would be able to drag the body away and feed on it at his leisure. Having thus, as I then and now think, successfully solved the difficulty, I swept away the web and spider, when all deposit of wings ceased, not one being found afterwards. The wings were, in most cases, those of the white large and small cabbage butterfly, one set of the little tortoiseshell, and a few moths—I forget of what species. The only evidence at all produced by Mr. Birchall against the mouse is that he caught one in the cave: certainly it may, in some measure, implicate him; but then I think the fact of a spider's web, with the known propensities of that insect, being found in both Mr. Birchall's and my case, is sufficient to point to the spider being the actual "marauder," and that the field mouse does not possess the habit Mr. Birchall assigns him.—*Stephen Clogg.*

Erratum.—At page 9, line 20, of Mr. Birchall's communication, to which Mr. Clogg refers, for *rocks* read *web:* on reading Mr. Birchall's very interesting communication I was certainly struck with an idea similar to that which Mr. Clogg has expressed; I mention this circumstance without wishing to influence the opinions of others.—*E. Newman.*

Gonocerus venator at Box Hill.—Twice, at a long interval during fifteen years, I have taken a single example, by beating the box trees on Box Hill, in May; but although I have beaten about the bush nearly every May, and also in other months, these two were all that rewarded my diligence. Still, it would be hazardous to say that the insects have not been there during any of those seasons, knowing as we do how many fortuitous circumstances must often happen together to enable an entomologist to find some particular species. Be this as it may, it is certain that on the 23rd instant [May] I was lucky enough to get eight males and eight females of this coveted beauty. They affect the shoots that stand out from the bushes, and are fond of sitting on the top of them in the bright sunshine, and taking short flights from one to another; and when one is in the net you are not sure of him, as he has a strong propensity to fly out of it. Fieber gives oaks and hedge-roses as the habitat of this species; with us it is exclusively found on the box.—*J. W. Douglas, in 'Entomologist's Monthly Magazine.'*

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

December 4, 1865.—F. P. PASCOE, Esq., President, in the Chair.

Donations to the Library.

The following donations were announced, and thanks voted to the donors:—'Memoires de la Société de Physique et d'Histoire Naturelle de Genève,' Tome XVIII, 1e Partie; presented by the Society. 'Bulletin de la Société Impériale des Naturalistes de Moscou,'—1864, Nos. 2, 3 and 4,—1865, No. 1; by the Society. 'Tijdschrift voor Entomologie,' Vol. VIII, Parts 1—4; by the Entomological Society of the Netherlands. 'Annales de la Société Entomologique de France,' 1864, 4e trim.; by the Society. 'Stettiner Entomologische Zeitung,' 1865, Nos. 4—6, and Nos. 10—12; by the Entomological Society of Stettin. 'The Journal of Entomology,' No. 13; by the Proprietors. 'Synopsis of the Bombycidæ of the United States,' Part 2, by A. S. Packard, jun.; by the Author. 'The Zoologist' for December; by the Editor. 'The Entomologist's Monthly Magazine' for December; by the Editors.

Election of Members.

The Rev. W. Farren White, Stonehouse Vicarage, Gloucestershire; and John Henry Hartwright, Esq., Terrace, Kennington Park, were severally ballotted for, and elected Members.

Exhibitions, &c.

The Secretary exhibited a collection of Lepidoptera, Coleoptera and Hymenoptera, made at Moulmein and in the Salween Valley, British Burmah, in July and August, 1865, by Lieut. R. C. Beavan. Amongst the Coleoptera, Mr. Baly detected a new species of Prioptera.

Mr. S. Stevens exhibited a box of admirably-preserved Lepidoptera from Santa Marta, part of the collection of the late Mr. Bouchard; and a specimen of Goliathus giganteus captured by Mr. Du Chaillu about 100 miles inland from Fernand-Vaz, and thence brought home in his pocket, being the only insect which he was able to carry away with him on his recent hasty retreat from the interior of Western Africa.

Mr. Stainton exhibited a remarkable variety of Tinea cloacella, bred by Mr. C. S. Gregson, from dead birch trees at Llangollen; the moth was entirely suffused with a dark ruddy brown (almost coppery) colour.

Mr. F. Smith exhibited a series of bred specimens of the Tenthredinidous insect, Crœsus septentrionalis; he had found the larvæ nearly full-fed on the 20th of August last; in four or five days they buried themselves, and within a month the perfect flies emerged, much to his surprise, as he had not expected them to hatch until next spring.

Mr. McLachlan believed the fly to be double-brooded; he had captured it at Rannoch in June last.

Mr. F. Smith (on behalf of Dr. J. E. Gray) exhibited specimens of a greasy-looking Noctua, known as the "Bugong" moth (probably the Agrotis spina, *Guenée*), sent from Australia by Dr. George Bennett), and read the following extract from that gentleman's 'Wanderings in New South Wales' (vol. i. p. 265):—

"Near this station [in the Murrumbidgee District] is a lofty table-mountain. It is named Bugong Mountain, from the circumstance of multitudes of small moths, called Bugong by the aborigines, congregating at certain months of the year about masses of granite, on this and other parts of the range. The months of November, December and January are quite a season of festivity among the native blacks, who assemble from far and near to collect the Bugong: the bodies of these insects contain a quantity of oil, and they are sought after as luscious and fattening food. I felt very desirous of investigating the places where these insects were said to congregate in such incredible quantities, and availed myself of the earliest opportunity to do so. After riding over the lower ranges we arrived a short distance above the base of the Bugong Mountain. This was the place where, upon the smooth sides or crevices of the granite blocks, the Bugong moths congregated in such incredible multitudes; but from the blacks having recently been here we found but few of the insects remaining. From the result of my observations it appears that the insects are only found in such multitudes on isolated and peculiar masses of granite: for what purpose they thus collect together is not a less curious than interesting subject of inquiry. Captain Cook mentions that at Thirsty Sound he found an incredible number of butterflies, so that for the space of three or four acres the air was crowded with them; that millions were to be seen in every direction. The Bugong is doubtless the same species as that observed by Captain Cook. The Bugong moths are found on the surfaces of the masses of granite, and to procure them with greater facility the natives make smothered fires underneath those rocks about which they are collected, and suffocate them with smoke, at the same time sweeping them off in bushels-full at a time. A circular space is cleared upon the ground, and on it a fire is lighted, and kept burning until the ground is considered to be sufficiently heated, when, the fire being removed and the ashes cleared away, the moths are placed thereon, and stirred about until the down and wings are removed from them; they are then placed on pieces of bark, and winnowed to separate the dust and wings; they are then pounded into masses or cakes, resembling lumps of fat, and may be compared in colour and consistence to dough made from smutty wheat mixed with fat: the masses will not keep good above a week unless smoked, when they will keep a much longer period: the taste is that of a sweet nut."

The President referred to the account given by Dr. Livingstone, in his African travels, of midges being made into cakes.

Mr. F. Smith said that a correspondent of his had recently inquired of him whether there was any truth in the statement that the soft-bodied little Atropos pulsatorium make a tapping noise like that attributed to Anobium; and the same correspondent also expressed his doubt as to Anobium making a tapping noise. On the latter point, in spite of the oft-repeated and commonly received statement that the "death-watch" made a distinct tapping against (say) an old wainscot and on the outside of it, as if for the purpose of notifying his presence to the female within, he (Mr. Smith) shared the doubt of his correspondent, and believed that the only noise made by the Anobium was caused by its gnawing the wood internally, and that there was no external tapping at all. He had himself met with instances in which the internal gnawing of wood by insects was distinctly audible, and, in particular, he mentioned the case of a rustic garden-seat from which proceeded a noise like many watches simultaneously ticking, and which was solely caused by Xylophagous insects.

Mr. McLachlan mentioned that on one occasion he had heard a loud noise inside an elm tree, and on examination it proved to be nothing more than a swarm of Scolytus gnawing away at the wood.

Several Members said that, as they understood the popular account of the Anobium, the tapping was not represented as being external; it was the fact of the noise being heard, whilst nothing was visible which could be suggested as producing it, that caused the ignorant to dread the so-called death-watch.

The Rev. J. Greene exhibited eight moths bred by him from pupæ which had been sent to him by Mr. Batty, of Sheffield, as pupæ of Acidalia subsericeata: from these had emerged one moth which was undoubtedly A. subsericeata, one which did not agree with any species known to him, and six which were clearly referable to the recently-described A. mancuniata of Dr. Knaggs.

Mr. F. Moore produced for inspection a series of well-executed plates of the insects of N. America, engraved by Mr. Townend Glover, of the State Department of Agriculture: these plates were a portion only of an extensive series which Mr. Glover has in preparation for his forthcoming work on the Insects of North America, and are illustrative, in the different Orders, of many of the species in their various stages of transformation; accompanying them was also a series of plates illustrating the insects destructive to the cotton plants, orange and lime trees, potato, &c., in America. Mr. Glover has been officially engaged for some years past in the study of the insects injurious to vegetation in America, and the results of some of his labours have been published in recent volumes of the American Patent Office (Agricultural) Reports.

Mr. Janson also produced twenty-four plates of the same series, illustrative of the Coleoptera of North America.

Mr. C. A. Wilson, of Adelaide, communicated another instalment of his "Notes on the Buprestidæ of South Australia."

Prof. Westwood exhibited three new Longicorn beetles, for which he proposed the names of Cantharocnemis Livingstonii (from Zambesi), Cantharoctenus Burchellii (from Damara-land), and Cantharoplatys Felderi (from the White Nile). The two latter were clearly allied to Cantharocnemis, but differed therefrom and from one another; he therefore proposed for them different sub-generic names, but in so doing had endeavoured, by the form of name selected, to show their subordination to or dependence upon the primary genus Cantharocnemis.

The President was unable to see the advantage of giving distinct names to subdivisions which were admittedly not genera. In the present case, by what name was the insect to be known? Cantharocnemis Felderi? or Cantharoplatys Felderi? or Cantharocnemis (Cantharoplatys) Felderi? If by the first, why introduce the name Cantharoplatys at all? If by the second—then, either Cantharoplatys is in fact treated as a genus whilst it is confessedly not of generic value, or the fundamental rule of the binomial nomenclature, that an insect is known by the names of the genus and species to which it belongs, is infringed. If by the third, the binomial nomenclature is abrogated, and a trinomial system introduced, without any advantage to compensate for its greater cumbrousness and difficulty of retention in the memory. If a newly-discovered form differed so much from previously-known forms as to be incapable of admission into any established genus, it must of course be described as a new genus and under a new name; but in his opinion there was not any subordinate or intermediate stage between the species and the genus to which it was either necessary or desirable that a distinct name should be applied.

Mr. Stainton thought that, in the state at which Natural History had arrived, and owing to the immense variety of forms which had been and would doubtless continue to be discovered, there was only a choice of difficulties from which he saw no escape: on the one hand, if comparatively small differences were for generic purposes disregarded, the genera became unmanageable in extent and incapable of precise description; on the other hand, if such differences were taken into account, there was no limit to the creation of genera; almost every species would eventually be raised to generic rank, or rather the genus would sink to the level of the species, and in fact be lost as a distinct step in the ladder of classification.

Papers read.

Mr. Geo. Semper, of Altona, communicated a paper entitled "Description of Papilio Godefroyi, n. sp."

Mr. R. McLachlan read a paper entitled "Observations on some remarkable Varieties of Sterrha Sacraria, *Linn.*; with general notes on Variation in Lepidoptera."

January 1, 1866.—F. P. PASCOE, Esq., President, in the Chair.

Additions to the Library.

The following donations were announced, and thanks voted to the donors:—'Proceedings of the Royal Society,' Vol. xiv. No. 78; presented by the Society. 'Journal of the Proceedings of the Linnean Society,' Vol. viii. Zoology, Nos. 31 & 32; by the Society. 'Bulletin de la Société Impériale des Naturalistes de Moscou,' 1865, No. 2; by the Society. 'Verzeichniss der um St. Petersburg aufgefundenen Crabroninen,' von August Morawitz; by the Author. 'Ueber eine neue, oder vielmehr verkaunte Form von Männchen unter den Mutillen, nebsteiner Uebersicht der in Europa beobachteten Arten,' von August Morawitz; by the Author. 'Enumeratio Animalium Musei Imperialis Academiæ Scientiarum Petropolitanæ,' Lepidoptera, Parts i.—iii., by E. Ménétriès; presented by A. Morawitz, Esq. 'Coleoptera Atlantidum, being an enumeration of the Coleopterous Insects of the Madeiras, Salvages and Canaries,' by T. Vernon Wollaston, M.A., F.L.S.; by the Author. 'Sepp, Nederlandsche Insecten,' 2nd Ser. Vol. i. Nos. 47—50; Vol. ii. Nos. 1—8; by S. C. Snellen van Vollenhoven, Esq. 'The Zoologist' for January; by the Editor. 'The Entomologist's Monthly Magazine' for January; by the Editors.

The addition, by purchase, of the following was also announced:—'Skandinaviens Coleoptera,' af C. G. Thomson, Tome vii. Häftet ii; Duval, Fairmaire et Migneaux, 'Genera des Coléoptères d'Europe,' Livr. 130.

Election of Members.

Henry Adams, Esq., F.L.S., Captain Julian C. Hobson, C. O. Rogers, Esq., and Dr. E. Perceval Wright, were severally ballotted for and elected Members. Thomas Blackburn, Esq., and W. B. Pryer, Esq., were severally ballotted for and elected Annual Subscribers.

Exhibitions, &c.

Mr. S. Stevens exhibited four large cases of Lepidoptera and Coleoptera from the Himalayas, containing numerous rare species, and many of the Lepidoptera having been bred from the larvæ.

Mr. Bates gave an account of Mr. Bartlett's explorations in the Amazons country; he had gone up the Amazons River as far as Nauta, and had thence followed the course of the Ucayli until he reached the eastern slopes of the Cordilleras: a collection of objects of Natural History, including several thousand insects, the result of four months' labour, had been despatched, and might shortly be expected in England. Whilst speaking of the Amazons, Mr. Bates desired to mention that the local authorities at Pará, which was merely the chief town of a province of Brazil, had recently voted £600 towards the expenses of scientific researches undertaken by Agassiz.

Prof. Westwood read extracts from a letter from M. Snellen van Vollenhoven, recounting some of his entomological experiences during the past season.

A conversation ensued respecting the female Lepidoptera which occur in autumn with undeveloped ovaries. Mr. J. Jenner Weir inquired whether such females, after hybernation, were found to have developed ovaries in the spring? It might be that early hybernation was an aid to the development of the ovaries. Prof. Westwood thought it probable that the ovaries were developed during the winter; the difficulty was to say when the impregnation took place; this, in the case of wasps, must be in the autumn, since the males did not survive the winter. Mr. M'Lachlan observed that nearly all the hybernated specimens of Vanessa were females; but he had himself taken Cerastis Vaccinii and C. spadicea respectively *in copulâ* on sallow-blossoms in the spring.

The following are descriptions of the three new exotic Longicorn beetles exhibited by Prof. Westwood at the previous Meeting:—

CANTHAROCNEMIS LIVINGSTONII, *Westw.*

C. piceo-niger; mandibulus subfalcatis, intus ante medium dente conico parvo armatis, apicibus oblique truncato-emarginatis; antennis subcrassis, capitis (cum mandibulis) et pronoti longitudine; capitis disco ruguloso, postice lævi, punctato; pronoti marginibus lateralibus subserratis, lateribus rude punctatis, disco sublævi nitido, tenuissime punctato, angulis posticis oblique emarginatis; elytris subrugulosis, punctatis, et singulis costis 5 parùm elevatis sed sat distinctis notatis; tibiis anticis extus 4- vel 5-denticulatis, denteque forti subapicali armatis, 4 posticis intus dense fulvo hirsutis.

Long. corp. lin. 15½; mandib. lin. 2½.

C. Spondyloide tertia parte major, magis nitidus et depressus, denticulis tibiarum anticarum minoribus.

Habitat Zambesi. Dom. rev. H. Rowleio captus. In Mus. Hopeiano Oxoniæ.

Sub-genus novum CANTHAROPLATYS, *Westw.*

A genere *Cantharocnemide* differt corpore magis depresso, mandibulis multo crassioribus dente subbasali armatis, antennis abbreviatis, elytris cicatricosis (nec punctatis), juguli angulis lateralibus valde prominentibus.

CANTHAROPLATYS FELDERI, *Westw.*

C. piceo-niger, subopacus; mandibulis subtrigono-falcatis, dente valido intus prope basin armatis; antennis latitudinem capitis longitudine vix superantibus; capite et pronoto punctatissimis, hujus disco magis lævi et subirregulari, utrinque circulariter subimpresso; capitis vertice longitudinaliter canaliculato; pronoto transverso, postice latiori, angulis posticis fere rectangulariter incisis; elytris minute cicatricosis, punctisque minutis inter cicatrices dispositis, costis 3 longitudinalibus ordinariis vix distinctis; tibiis anticis extus in medio 2- vel 3-denticulatis, apice dente lato armatis, 4 posticis extus denticulatis; femoribus subtus castaneis; metasterno fulvo velutino sericante, disco crebre punctatissimo.

Long. corp. lin. 17; mandib. lin. 2.

Habitat in Africa, apud. fluv. "White Nile." Dom. Feldero captus, et nomine ejus honorato inscriptus.

Sub-genus novum CANTHAROCTENUS, *Westw.*

Cantharocnemidi proximum; differt prothorace magis cylindrico, antennis duplo longioribus, 18-articulatis, articulis duplo pectinatis, pedibusque longioribus.

CANTHAROCTENUS BURCHELLII, *Westw.*

C. piceo-castaneus, nitidus; prothorace cylindrico; mandibulis capitis longitudine, falcatis, apice valde oblique truncatis, dente acuto apicali, altero subapicali interno, basi etiam intus dente parvo conico nigro armatis; antennarum articulis omnibus (2 basalibus exceptis) infrà ad basin dentibus 2 armatis, apice infrà in lobum latum tenuem deflexum producto, cujus margo incisus dentes 2 alios simulat (inde antennæ singulæ 64 spinas habere videntur); capitis vertice in medio canali longitudinali tenui instructo; prothorace nitido, angulis anticis rotundatis, posticis oblique truncatis, lateribus pone medium spina parva armatis, disco nitido, utrinque pone medium tuberculo parum eminente subnotato; elytris prothorace multo latioribus, nitidis, punctatissimis, sutura striolisque 2 longitudinalibus lævibus vix distinctis notatis; metathorace subtus fulvo dense hirto; tibiis anticis planis, extus in medium spinis 2 denticulisque nonnullis minutis armatis, apiceque extus in spinam latam producto, 4 posticis extus denticulatis.

Long. corp. lin. 13; mandib. lin. 2.

Habitat "Damara Land" Africæ merid. Dom. Andersson captus. In Mus. Hopeiano Oxoniæ.

Papers read.

Mr. W. C. Hewitson communicated a further instalment of his "Descriptions of new Hesperidæ," including twenty-three species of the genus Hesperia.

The President read a paper entitled "A List of the Longicornia collected by the late Mr. P. Bouchard at Santa Marta." The species were upwards of fifty in number, and four new genera were characterized."—*J. W. D.*

6 FE66

FEBRUARY 1.—THE BIRDSNESTING SEASON BEGINS.

BIRDSNESTING;

BEING

A COMPLETE DESCRIPTION

OF THE

NESTS AND EGGS

OF

BIRDS WHICH BREED IN GREAT BRITAIN & IRELAND.

By EDWARD NEWMAN, F.L.S., F.Z.S.

This work is written expressly for the use of out-of-door naturalists and that better class of schoolboys who take up Natural History as an instructive recreation. Under each species will be found—

1. The English name.
2. The Latin name.
3. The situation in which the nest is to be found.
4. The materials of which the nest is built, together with any particulars of its shape which may assist in determining by what bird it is built.
5. The number and colour of the eggs, describing such variations as are occasionally met with.

In compiling this work the sources whence I have drawn my information are—

1. My own memoranda.
2. Colonel Montagu's 'Ornithological Dictionary.'
3. Mr. Selby's 'Illustrations of British Ornithology.'
4. Mr. Hewitson's 'Oology.'
5. The 'Zoologist,' not only every volume but every number of which abounds in original and highly important observations on the life-history and distinguishing characters of birds.
6. The 'Letters of Rusticus.'
7. Observations, emendations and additions by Mr. Bond, of London, and Mr. Doubleday, of Epping. With the view of making this work as complete as possible, these two gentlemen, our best British ornithologists, have gone over the list, species by species, and, in a manner deserving the warmest and most sincere thanks of all lovers of birds, have corrected whatever they thought erroneous, erased whatever they considered doubtful, and added whatever they believed necessary to make the list complete; so that, as now offered to the public, it must take rank as the most complete descriptive list ever produced on any branch of British Natural History.

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